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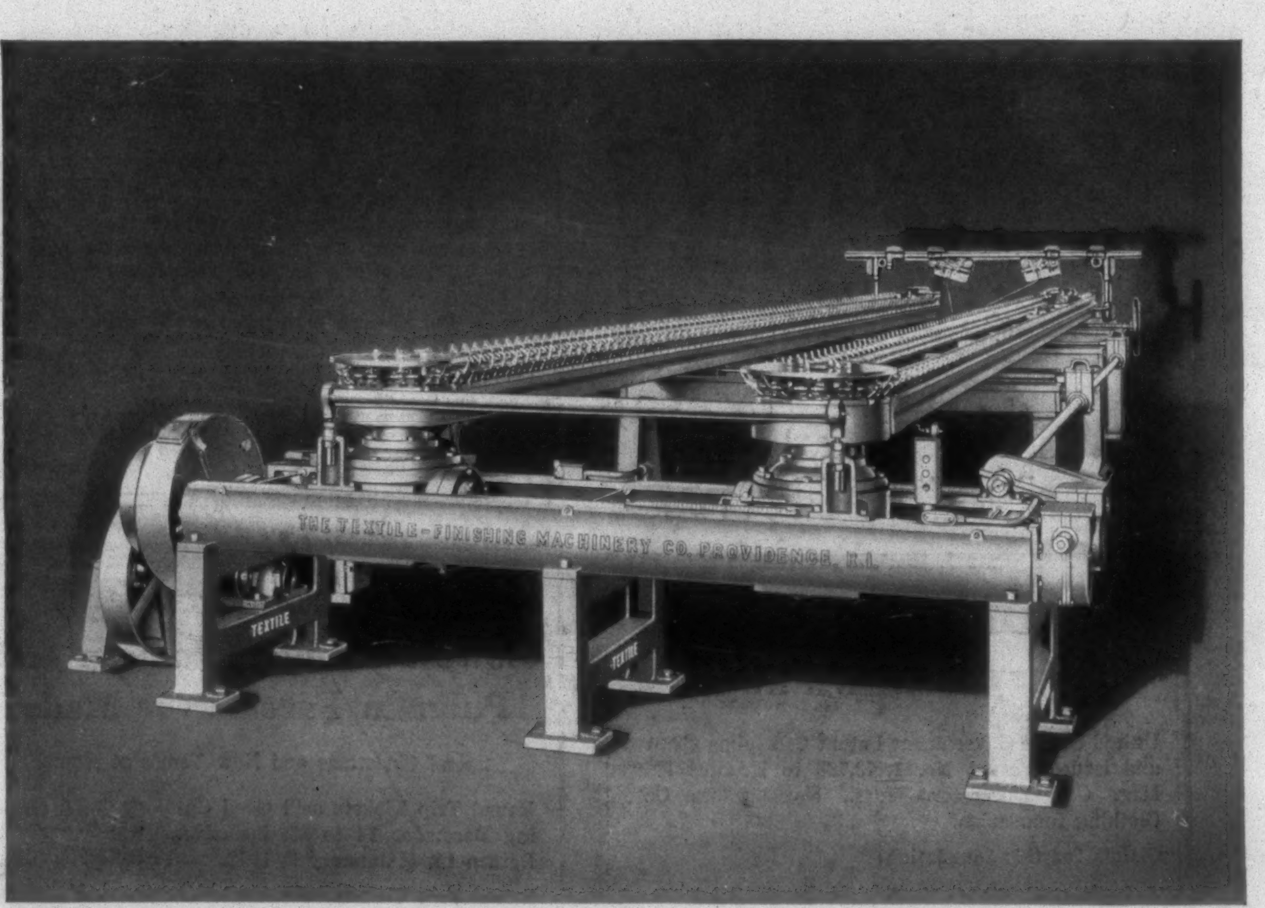
SOUTHERN
TEXTILE BULLETIN

VOL. 43 CHARLOTTE, N. C., DECEMBER 22, 1932 No. 17

NEW Automatic Straightaway TENTER



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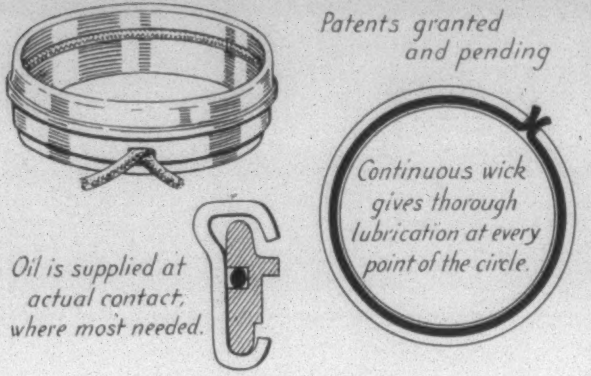
Technical Articles In This Issue Feature Dyeing, Bleaching, Finishing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TEXTILE BULLETIN

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VOL. 43 CHARLOTTE, N. C., DECEMBER 22, 1932 NO. 17

Annual Report on Textile Progress

THE annual report on textile progress compiled by the Progress Report Committee of the American Society of Mechanical Engineers is presented herewith. W. L. Conrad is chairman of the committee. The executive committee of the Textile Division of the Society for this year was composed of Henry N. Burke, chairman, Paul A. Merriam, vice-chairman, M. A. Goilick, Jr., secretary, H. V. W. Scott, Wm. L. Conrad, Clifford H. Ramsay. The report follows:

Notwithstanding that the textile industry in practically all branches has been operating under a materially reduced schedule, all of its plant executives have been searching for means to eliminate waste and to develop improved machinery and methods, so that even in 1932 some of the mills and textile plants have been operating successfully. A depression may therefore really develop into an important industrial revival.

During the last few years textile machinery builders have been greatly improving and standardizing their products and developing new mechanisms and processes that have materially benefited the industry. In fact, this has been carried on to an extent not before witnessed in 25 years.

Much progress has been made in scrapping obsolete mills and mechanisms, as well as the processes themselves, and much more remains to be accomplished.

Such buildings as have been erected have been mostly small additions to existing textile mills, and little of new design or construction has been noticed, but the new machinery and processes that have been developed require very little actual floor space as compared with the old methods, and this argues well for the development in the years that are to come.

An important trend that apparently will terminate in a most satisfactory condition is the seeming willingness now of the actual leaders of the textile industry to meet and discuss their several problems, whereas in the past this has been difficult to accomplish. And it is earnestly hoped that during the coming year the engineering executives connected in any way with the textile industry may make it possible to bring into a mill more closely knit group the textile executives of every branch of the industry so that the basic problems of machinery, development, policies, and processes may be more thoroughly discussed and worked out. For to the far-seeing engineer there is every evidence that most of these problems now so jealously guarded by the several branches of the industry are in reality only problems common to the industry as a whole when viewed by the impartial technically trained engineer.

DYEING AND FINISHING

An outstanding engineering achievement in the textile field is the development of the two-motor, all-electric dye jig. This mechanism was developed by an English engineer, and the American rights were acquired by a textile machinery manufacturing firm that has greatly improved the original machine. This all-electric jig gives constant cloth speed, constant tension controllable at will from no tension to any tension required, and also automatic reversing and stopping after a predetermined number of ends, making it a valuable addition to the textile-producing mechanisms.

A simple mechanical fabric guide is operated by a selvage finger moving with the fabric, its claimed advantages being immunity to moisture or lint and adaptability to either wet or dry fabrics and the successful handling of delicate fabrics.

A light-running dye jig adapted for light-silk, rayon, cotton-and-silk, rayon-and-silk, and fine cotton fabrics is an individually driven, self-contained unit and, because of the absence of pulleys and belting, it is claimed that the operator can move freely on all sides of the jig. The mechanism has been designed to secure silent operation and low upkeep costs. It is possible that this mechanism is quite similar to another developed during the last three years. Both appear to be a long step in the right direction in the development of these operations.

In an improved piece-dyeing machine used principally for silk fabrics, the goods instead of being pulled through the liquor in rope form are said to practically float through it in semi-open form. The mechanism is designed to reduce the pull to a minimum, thereby eliminating marks and insuring good penetration.

CLOTH SHRINKING AND CONDITIONING

A machine for shrinking cloth without the application of tension accomplishes this through automatic festooning of the goods. It is asserted that with these feeding and looping devices the materials can be fed in the flat, open condition, without the danger of wrinkles or marks. Another claim is natural drying without heat or air circulation, although heat or air may be used if desired.

Another conditioning machine for restoring the moisture content has been offered to the finishing industry and is claimed to be equally effective on worsteds, woolens, cottons, silks and rayons. Close control and the handling of a large volume of goods in minimum space and time are claimed and also that the mechanism can be operated in range in connection with other machinery.

In the Palmer Sanforizing unit brought out last year, recent developments that are in fact decided improvements over the older methods accomplish the shrinking of heavy fabrics such as denims, moleskin, and auto-top materials through an ingeniously designed and arranged feeding device, sprays and steamers, together with individual motor drives and feeding machines and the clutches.

A metal-clad piecedye tub introduced about the first of the year will apparently replace the old-time wood tub on account of accessibility in cleaning when changing colors.

Dyeing of a yarn package either from the inside out or the outside in is a feature of a new ultra-package-dyeing machine. The advantages claimed are in the ready flow of the dye liquor, the distribution of the dye liquors over the material, the special carriers, the tank design, and the dyestuff agitator, and also the low steam consumption and minimum space requirements.

A textile drier developed abroad after several years of effort is based upon a novel method of air circulation and the manner of conveying the material. Negotiations for the manufacture of the drier in this country are now under way.

A highly mechanically perfected mechanism for the continuous dyeing and slashing of cotton and rayon warps has been patented, and it is believed that the model recently turned out is the first really practical one that has been produced. It has many novel features and is of beautiful construction. It will be necessary, however, to withhold comment until the machine has been in use for a few months so that it may be observed under actual operation.

COTTON MACHINERY DEVELOPMENTS

A new jig has been designed to give a better penetration of the dyestuffs in the cotton finishing industry. This jig will apparently replace the older type of jigs and padders on the cotton and possibly on the silk fabric. The more satisfactory penetration should result in better color. In this apparatus the squeeze rolls are inside the dye tank, and may therefore be partially or completely submerged in the dye liquor, overcoming the objection that in some operations the squeezing on the selvage and body of the fabric has not been uniform, resulting in uneven color.

A lubricator for bobbin winders has been developed in Europe. This mechanism, combined with a special stretch device, insures thorough and uniform lubrication, with friction eliminated.

TWISTING EQUIPMENT

What has been described as an entirely new machine for the twisting of wool, worsteds, rayon, cotton and other yarns has been announced. This mechanism is claimed to give increased uniformity of twist, together with a materially increased production; in fact, it is claimed that more product is possible than is obtainable in existing frames. It is also claimed that this mechanism combines both the principles present in today's methods of twisting, and a further claim is made that the manipulation of this machine is very simple and the frame is said to be suitable for twisting crepes and all yarns where medium or hard twist is required. It is particularly advantageous for the twisting of cotton crepe yarn, wool crepe, single twist, and knit silk crepe.

A novelty twister for producing a wide range of fancy yarns has been introduced during the past year. The heads of this mechanism are so arranged that two or three lines of independently driven under-rolls may be used with each line of rolls having more than one speed a head, and these lines of rolls may be timed to run at the same speed or at different speeds and are centrally controlled. This mechanism has many other advantages that make it of special interest to the cotton industry.

A novelty tester has been produced for portraying graphically the inherent evenness characteristics of various slivers and coarse rovings, and the manufacturer has outlined a method of evaluating the graph prepared by this instrument.

The general tendency of the manufacture of looms for cotton and worsted goods has been to standardize in the manufacture of this machine, and these parts are now interchangeable, as they are in other modern equipment. These new weaving machines have been developed with the idea of showing a return on the investment when they are purchased for the replacement of old machinery.

SINGLE PROCESS PICKER

The single-process picker has become almost the standard for picker rooms. Two and three-process pickers are today considered obsolete. In the card room the long-draft system has been applied to roving frames, and it is understood is being used in a few mills at the present time. The long-draft spinning system is now being used extensively as replacement becomes necessary or additions are made, and it is claimed that it may be now considered as the standard type of spinning.

Spinning frames are being redesigned and are now being made to produce large packages suitable for use direct in the warper creels, thus doing away with spooling. These spinning frames are equipped with knee brakes, moving thread boards, and improved features in many parts.

Old-style spooling and warping have been largely eliminated and have been replaced with either automatic spoolers and high-speed warpers or with high-speed winders and warpers. The elimination of the spooler or winder from this process is forecast.

For mills that comb their cotton, a new and improved comber is available that gives much greater production.

PROCESS DEVELOPMENT

One of the important developments during the year in the process field is the commercial production of cuprammonium rayon by a particular process. This radical change in rayon production methods has been described in detail in some of the leading textile journals, and its adoption would indicate a revolutionary feature in the rayon industry.

There is also reported the possibility of the production of acetate yarn by another organization, but up to the present time few actual details of this process have been made available, although it is understood that it is an improvement and simplification of older methods.

AUTOMATIC SILK LOOM AND CONING MACHINE

There has been developed this year the 2x1 shuttle-changing automatic silk loom, and this improvement has also been applied to the so-called super-silk loom. This is an electro-mechanical mechanism and permits both shuttles of this loom to be replaced with new shuttles without stopping the loom, the necessity for changing shuttles being indicated by an electrical detector. This type of detector, however, cannot be used except under certain conditions, but an internal detector, which is a part of the shuttle, has been developed that will fill the needs of all general conditions. This internal detector shows great promise, especially with very fine rayon yarn. The 2x1 shuttle-changing silk loom is particularly adapted to fine rayon goods where bobbin-changing looms have been found to be impracticable.

An improved coning machine equipped for silk throwsters has been placed on the market and it is said to produce a desirable package economically and at an exceptionally high spindle speed, and the arrangement of the spindle units is declared to promote flexibility and in the allotment of spindle per operator to meet changing mill requirements.

(*Continued on Page* 27)

Cost of Dyeing Cotton Piece Goods *

BY J. ANDREW CLARK

Chief Chemist, Dutchess Bleachery, Wappingers Falls, N. Y.

The dyeing of cotton piece goods is most often conducted in relatively large organizations called finishing plants. These usually bleach, dye and finish the cloth on a contract basis, with a middleman known in the trade as a converter. Without taking up the financial and economic reasons for the converter, it is sufficient to consider him the owner of the cloth and as one party of the contract who orders it into process or to be finished. In ordering goods processed, the converter customarily gives definite instructions as to the type of finish, width, color, packing and shipment. The converter, as his part of the contract, agrees to furnish gray cloth of a definite construction and of specified length and type of cloth. The finishing plant agrees to process this cloth to the converter's specifications, as to the type of finish, width, color and color type.

General Basis for Finishing Charges

The charges for this service are usually based on several of the following considerations: 1. Whether the cloth is to be finished white or colored. This merely reflects the difference in the cost of dyeing the goods above that of bleaching. 2. The type of finish. Various finishes are obtained with different labor and material costs. 3. The color type. This represents difference in cost of labor and materials in the application of the different types of dyestuffs. It takes no imagination to recognize a difference in cost for dyeing a vat brown, for instance, at $10 a pound and an equivalent hue with direct colors for less than $2, a difference, moreover, that cannot be neglected in any price agreement. 4. The yardage dyed in each color. This is an important consideration, for the plant is enabled to select the most economical procedure in processing. Small yardage can best be handled in most cases on jigs and pads, while longer yardage permits of range operation, with its attendant lower operating cost and economy of material. 5. The gray piece length. While the standard piece length is 60 yards, finishing plants are sometimes requested to process shorter lengths. These short lengths increase the gray-room costs considerably, and on certain fabrics may cause excessive seam "mark-offs" in dyeing. 6. Working allowance and bleaching seconds. This item is a most vital part of the agreement and may eventually decide the acceptance or rejection of the contract. In some types of cloth, the percentage return is standard with the trade. In other types, a return will vary with the finish, the converter's demands and the finisher's skill. In some cases, the converter's demands are extreme, such as a recent case of a request for a 102 per cent extra return on a zero shrunk broadcloth. It is axiomatic that a perfect piece of cloth is never woven, and almost as true that a finisher never completes a lot entirely perfect. A reasonable amount of damage is to be expected and is commonly made part of the agreement. This usually is in the form of a reduced price scale based on the percentage of such second. 7. The put-up, a term used in the textile trade to indicate the form of package for market. This reflects the difference in costs of the various methods of cutting, folding, rolling, doubling, or winding, with the necessary ticketing, papering, etc. 8. Packing and shipment. This item usually contains the charges for the various methods of packing and has been customary with the trade. While it has been the custom for the converter to pay the incoming freight, business conditions at present have caused some plants to offer concessions in this respect.

Group of Vat Dyed Towels

Bleaching in Preparation for Dyeing

The foregoing is an outline of the basis on which a finishing plant does business, and the following is a description of bleaching in preparation for dyeing:

Cloth as woven contains approximately 5 to 12 per cent of natural impurities and added sizing materials, the latter being added to facilitate weaving. These impurities are removed in the bleaching operation, which leaves the cloth in a suitable condition for dyeing. Bleaching, briefly, consists of one or more kier boils, treatments with acid and hypochlorite solution, and adequate washing. Kier boiling serves the purpose of removing most of the natural impurities, oils and waxes, as well as the added size. Other scouring methods are sometimes used, but as a rule pressure boiling is required to thoroughly disintegrate the motes in most cotton fabrics. Actual bleaching with hypochlorite is usually necessary to ensure a level white color throughout the cloth in process. Following this general procedure, the cloth is ready for dyeing.

The textile trade recognizes several different types of dyeing on cotton cloth. While these differences are actually based on fastness of the color for specific purposes, they are usually interpreted by the dyer to mean the dyestuff classification and its method of application. Wide differences in price usually exist between dyes in different classes whose methods of application vary considerably in cost. The principal market classifications are: 1. Commercial. 2. Sunfast. 3. Tubfast. 4. Perspiration proof. 5. Vat colors. These classes, moreover, are subject to several subdivisions, according to the converter's demands.

Commercial Colors—Padding Lighter Shades

Commercial colors are usually thought of as any color capable of cheap application, for which practically no fastness is required by the converter nor guaranteed by the dyer. Direct or substantive colors are admirably suited to this work, due to their ease of application and low price.

The lighter shades are universally padded. This operation consists in passing the cloth between two or more rolls while impregnated with the dye liquor. Pads are commonly operated at high speed, with a production of 150 to 200 yards per minute, a speed which surpasses that of other methods. In operation, one man runs a single machine with the aid of a supply man, who also assists other operators. This man helps in starting each pad, and he trucks the cloth to and from the machines. The productive time of a pad is limited by the yardage of each color and the ability of the dyer to match shades quickly. The time necessary to clean the rolls, box, and tub after each lot also cuts down the productive time, so that 60 per cent would be a very high figure, while 50 per cent is nearer an average for this productive time.

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*Paper presented at annual meeting of the Textile Division of the American Society of Mechanical Engineers.

Concentrations within the range of 1-32 to 2½ oz. of dye per gallon are commonly used, while the volume of liquor to dye a given yardage varies not only with the weight and construction, but also with the system of padding. Th esimplest method, known as slappadding, uses less liquor and gives more uniform shades. It generally is used for the lighter colors. In padding the heavier shades, where it is necessary to pass the cloth into the liquor in the padbox before passing through the rolls, experience has shown that unevenness from end to end may result in dyeing, through difference in the exhaustion rates of various dyes. This has been overcome in several ways, one of which depends on overflowing the dye liquor—a method, however, that requires more liquor to a given yardage.

REPRESENTATIVE FORMULA AND DYEHOUSE COSTS

A representative formula to dye 5,000 yards in commercial colors is:

1 lb. dye, at an average per lb. of	$0.70
1 lb. phosphate of soda	0.04
	$0.74

12 gal. water.

Summarizing, the pad dyehouse costs, with an assumption of a 60 per cent productive time, are approximately:

Materials, per yd.	$0.74
Labor, 1 1/3 men, 68 min., at $0.36 per man hour	0.54
Dyehouse base cost for 5,000 yd.	$1.28
Base cost per yd.	0.000256

Pad dyeing is usually resorted to in shading many of the other classes of dyeing when the color is only slightly off shade. The foregoing base cost therefore represents a fair value for the increase in dyehouse cost for bringing most off-shades to match the standard.

JIG DYEING—FORMULA AND BASE COST

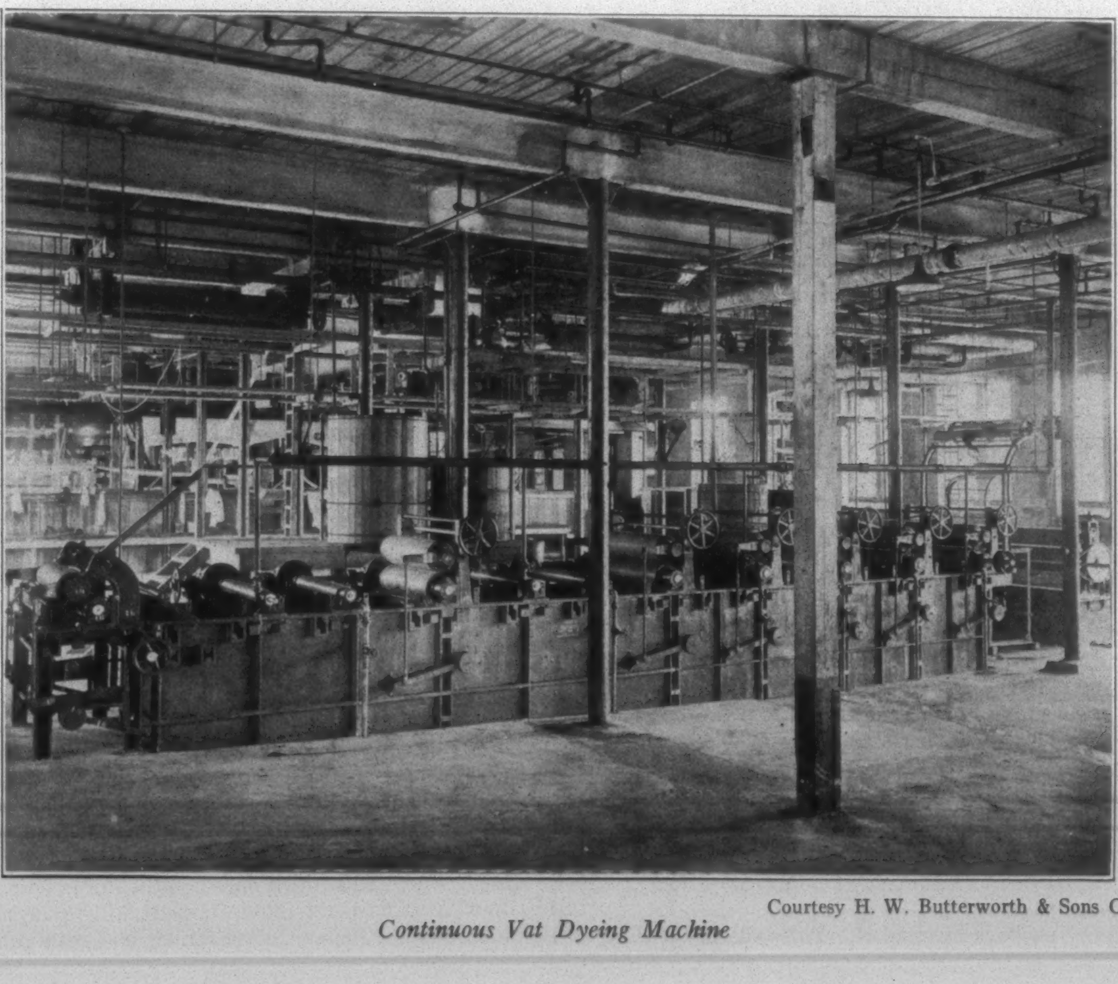
The heavier shades are usually dyed in jigs. This machine is designed to pass the cloth back and forth through a relatively small volume of liquor. The capacity of the machine is limited by the size of the cloth roll that can be mounted on it, and ranges from 200 yards of heavy fabric to 1,500 yards of a very light fabric. Jigs are also capable of being used for scouring and bleaching other fabrics that might be damaged in processing with kier boiling. This type of machine has been greatly improved by the machinery manufacturers to handle lighter fabrics with larger capacities.

One man usually operates two to four jigs, with the assistance of another operator when moving a roll on or off the older type. Normal operation is usually two to three rolls a day for each machine.

A representative formula for 1,000 yards of 5-yard cloth, based on a 2 per cent dyeing, is:

4 lb. dye, at $0.70 per lb.	$2.80
½ lb. oil, at 0.09 per lb.	0.045
20 lb. salt, at 0.004 per lb.	0.08
	$2.925

(*Continued on Page* 10)



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NATIONAL DYES

Peroxide Bleaching of Textiles*

BY H. G. SMOLENS

Consulting Engineer, Buffalo Electrochemical Company.

The original peroxide used for textile bleaching was probably barium peroxide or a hydrogen-peroxide solution made from it by the addition of phosphoric or sulphuric acids. Then came the 10-volume U. S. P. hydrogen-peroxide solutions, made from barium peroxide, which had a fairly wide usage until 1905 to 1910, when sodium peroxide and the 25-volume hydrogen-peroxide solution made from it began to replace them rapidly. The higher concentrations and the lower prices of the latter peroxides, together with the introduction of a more or less chemical basis to their application in textile bleaching, gradually increased the demand for them, so that in 1925 there was a considerable volume of peroxide bleaching of all textiles—mainly, however, of those made of silk or wool.

About 1923 there first appeared in this country the concentrated electrolytic hydrogen peroxides, 100 volume, made in England, Austria, Germany and Switzerland, and offered for sale here by importers. So marked was the preference with which peroxide bleachers favored these 100-volume peroxides that two plants for their manufacture were built, one in Buffalo and the other in Niagara Falls, and production started in 1927. In the last five years the 100-volume electrolytic hydrogen-peroxide solutions have almost entirely replaced all the former peroxides used in textile bleaching. This is due partly to their extreme stability and high efficiency, partly to their ease of handling and shipping, partly to their lower cost, and partly to the development of a technique in their application which has placed peroxide bleaching today on a par scientifically with the best and most highly developed textile finishing processes.

Peroxide bleaching is roughly classified, according to the fibres for the bleaching of which it is used—viz., wool, silk, rayon and cotton.

Wool raw stock is bleached in considerable quantities by a continuous or an intermittent treatment with a suitable peroxide solution in the last bowl of the standard wool-scouring range. A smaller quantity is bleached by submersion, usually overnight, in a different type of peroxide solution. A still smaller quantity is bleached in raw-stock dyeing machines, in which the peroxide solution is circulated through the wool for several hours. Wool top is not being bleached in very large quantities. Some of it is done by a continuous peroxide treatment in the backwasher, some by an overnight submersion in the peroxide solution, and some by circulating for several hours a peroxide solution in the top-dyeing machines. Wool yarn, mainly knitting yarn, is being bleached in rather large quantities. This is usually done by a submersion of the yarn, in bundles, in a peroxide solution that will bleach it in six or eight hours, or overnight. Some wool yarn is being bleached in skein-dyeing machines, and some, mainly weaving yarn, in the package-dyeing machines. Most outerwear yarns, except those going into bathing suits, are given a sulphur-dioxide treatment after the peroxide bleach, as this makes the white much clearer and brighter.

Silk is being bleached with peroxide in the following forms: Yarn, piece goods, knit goods and hosiery. Silk yarn is peroxide bleached in comparatively small amounts, mainly to obtain a bleached bottom for very light colors. This work is done in hand kettles, and the yarn, on sticks, is turned in the peroxide solution until the desired whiteness is obtained.

Silk piece goods are peroxide bleached in very large quantities, both for white and to obtain a bleached bottom for light shades or prints. The bleaching procedure depends entirely on the kind of handling that the goods can stand without interfering with the desired finishing. Some silk piece goods are bleached on jigs because they cannot be roped or creased; some are submerged completely in the peroxide solution and turned once or twice an hour with a hand reel, because they cannot be rubbed

(Continued on Page 12)

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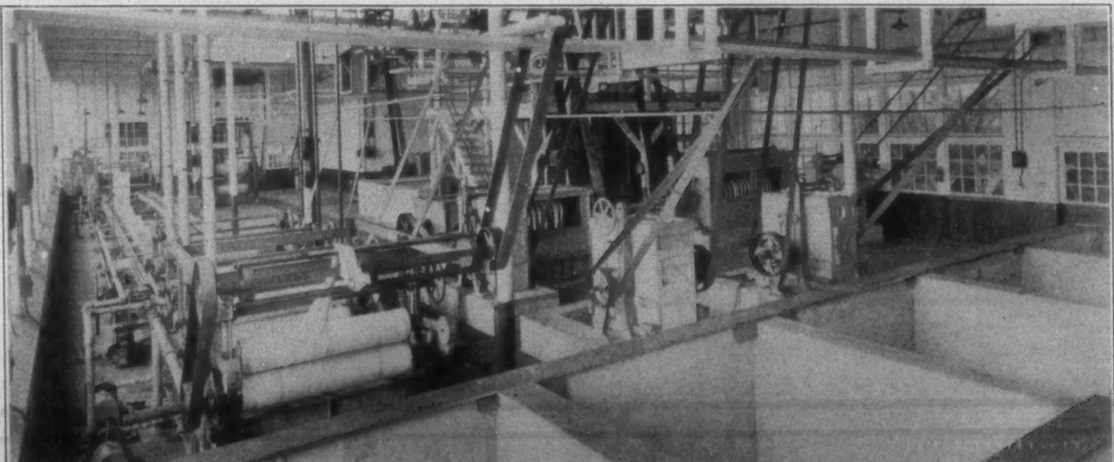
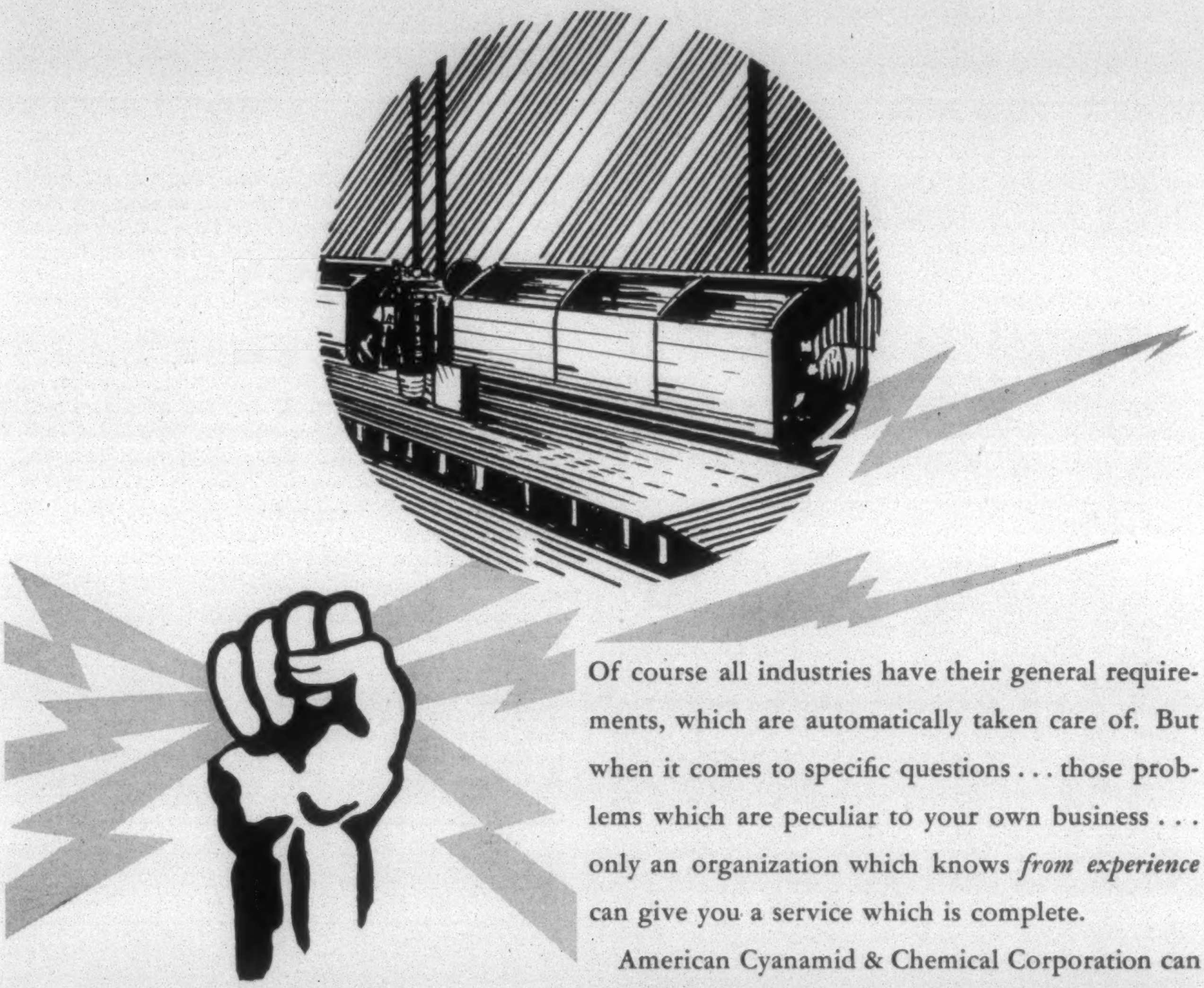
*Paper presented at annual meeting of the Textile Division of the American Society of Mechanical Engineers.



Courtesy H. W. Butterworth & Sons Co.

Bleaching Equipment in a Southern Plant

SPECIALIZED -



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Cost of Dyeing Cotton Piece Goods

(*Continued from Page* 6)

In dyeing, eight passes through the liquor are required—one end to straighten the cloth, four ends in color, two ends in salt rinse, and one end to shell up. Each end takes approximately 20 minutes, with a total time of 2¾ hours required for the dyeing. With a four-jig rate of 42 cents per hour, the labor charge would be 10½ x 2¾, or $0.289.

The summary for base cost is, then:

Materials	$2.925
Labor	0.289
Total base cost for 1,000 yd.	$3.214
Base cos tper yd.	0.00321

Light shades will be somewhat lower in cost, inasmuch as 85 per cent of the value represents cost of dyestuff. A ½ per cent dyeing would then show a base cost of $1.114 for 1,000 yards, or $0.001114 (about one-tenth of a cent) per yard.

During the last three years or so, wetting-out agents of all kinds have been introduced for the purpose of increasing depth and ease of penetration of the dye in the fiber. With prices ranging from 9 to 40 cents a pound, the use of these materials usually increases the expenditure by 2 to 5 cents a yard, or from 6 to 16 per cent on the cost of the dye. This may or may not be compensated for by the use of less dye and better appearance of the fabric.

Sun-Fast Colors—Application and Cost

Sun-fast colors, as the name implies, are expected to withstand moderate exposure to sunlight with little or no fading. Various technical organizations have set up standards of fastness, but unfortunately neither the converter nor the customer is a member, and in turn they have their own individual standards. A few direct dyeing colors have been developed for this requirement and are quite satisfactory. These dyes are, however, considerably higher priced than the usual direct colors—approximately three times as expensive. The method of application is the same as for the commercial colors, with the differences in cost due solely to the advance in the price of the dyes.

A 2 per cent jig dyeing of 5-yard cloth, 1,000 yards to the roll, shows:

4 lb. dye at $2.50	$10.00
½ lb. oil at $0.09	0.045
20 lb. salt at $0.004	0.080
	$10.125
Labor	0.289
Total base cost for 1,000 yd.	$10.414
Base cost per yd.	0.01041

Sun-fast colors are, moreover, commonly called for in the heavier shades, light-fastness increasing with depth of dyeing.

After-treatment of commercial dyeings with soluble copper salt improves the fastness to light in some cases sufficiently to meet requirements; chromates are added at the same time to improve fastness to washing.

A 2 per cent jig dyeing with commercial color of a 1,000-yard roll of 5-yard cloth with characteristic formula would show:

Base cost for dyeing with commercial color		$3.214
After-treatment materials:		
4 lb. copper sulphate at $0.037	$0.148	
4 lb. sodium bichromate, at $0.058	0.232	
3 lb. acetic acid, at $0.048	0.144	
	$0.524	$0.524
Labor:		
2 ends in chrome-copper, 2 ends wash, 20 min. jig time (4-jig rate) at $0.42 per hour		$0.140
Total base cost for 1,000 yd.		3.878
Base cost per yd.		0.003

When acceptable, these colors can be dyed with only a slight increase in base cost over the cost of applying the commercial type.

Other types of dyeings are occasionally made use of in dyeing cloth required to be light-fast. They are, however, of more importance in other respects and will be considered later.

Tub-Fast Colors

Tub-fast colors are required in general to withstand a mild soaping at 160 F. for one-half hour without appreciable loss in color or staining of white cloth in the same bath. Some few direct dyeing colors are sufficiently fast in very light shades and can be padded at essentially the same cost as ordinary colors of that class. Heavier shades of the same dyes may be totally unsuited for this requirement.

Diazo colors, as a class, are used extensively and are generally satisfactory. These colors are dyed first as direct colors, following which they are diazatized with nitrous acid and then coupled with beta naphthol or similar developer. These dyes cost slightly more than the direct or commercial colors, and their application requires nearly three times as much time.

A summary of such a 2 per cent dyeing on a 1,000-yard roll of 5-yard cloth is:

Materials:		
4 lb. dye, at $1.20	$4,800	
½ lb. oil at $0.09	0.045	
20 lb. salt, at $0.004	0.080	
6 lb. nitrate, at $0.103	0.618	
11 lb. sulphuric acid, at $0.0098	0.011	
3 lb. B-naphthol, at $0.233	0.699	
1 lb. caustic soda, at $0.0262	0.026	
Total materials cost	$6,279	$6,279
Labor:		
Dye	7 ends	
Diazotizing	2 ends	
Rinse	2 ends	
Developing	2 ends	
Rinse	2 ends	
Shell	1 end	
	16 ends	
For the 16 ends at average of 20 min. each, 5 1-3 jig hours, or 1 1-3 man-hours, at $0.42 (4-jig rate) per hour		$0.560
Total base cost for 1,000 yd.		$6.839
Base cost per yd.		0.006839

A ½ per cent dyeing would give a base cost of $3.40 for 1,000 yards, or $0.0034 per yard.

Sulphur Colors in Heavy Shades

Sulphur colors are commonly used in heavy shades for tub-fast requirements. These colors are insoluble in water, requiring an alkaline sulphide bath for solution, and are usually dyed on jigs and continuous machines. Special dyeing machines for sulphur cloors are frequently used when large yardages of single colors are involved. The usual kier boil and bleaching operations may be unsatisfactory for sulphur dyeings. Chafing in the kier and crows-feet are prolific sources of trouble. Especially in the heavier fabrics, open-width scouring machines or jigs are employed. The cost of this preliminary treatment is therefore somewhat higher than the usual process.

(*Continued on Page* 32)

Dyeing and Finishing Troubles Caused By Mould Fungi or Mildew*

BY ROBERT COWAN

THE micro-organisms concerned in the attack on textiles are of three different types, the molds, the bacteria, and species of ray fungi. The molds belong to a very large group of plants which includes the mushrooms, the fungi of rotting wood, disease producing organisms in plants and animals, and the mildews seen on foods and fabrics. The species which produce textile mildews number perhaps several hundred, new ones being named from time to time. These latter fall into three groups which can be differentiated under the microscope: the aspergilli, the penicillia, the mucors.

Before going into the subject of fiber damage and dyeing troubles caused by mold fungi or mildew it is interesting to note how certain classes of them have been put to useful work by textile chemists. I refer to the formation of enzymes which have become a valuable assistant assistant to the cotton finisher. Therefore, we should have a clear idea of how enzymes are produced and it is probable that could we discovered the secret of their working during the processes taking place in living tissue, great light would be thrown on that complex problem, life itself and perhaps an even greater secret than that of the philosophers stone, The Elixir of Life, that imaginary liquid of the alchemist which was supposed to be capable of prolonging life indefinitely, might be disclosed. Enzymes are colloidal substances produced by living organisms, animal and vegetable, and acting as catalysts. One of these is the amylase commonly known as diastase and is widely used in the extile industry for removing starch and dextrine from finished textiles. This particular enzyme is produced by use of fungi of the aspergillus and penicillium types, which are exactly the same fellows which produce the troublesome mildew of textiles, the most common being the green, black and yellow molds, but also including the yellow-green mold of preserves and jams in our pantries, the green mold which is the ripening agent of Roquefort cheese, a grayish-white mold used to produce Camembert cheese, the blue-green mold found on citrus fruits, and the storage rot fungus of apples. Practically every color of the rainbow is found as a result of the action of these mold growths.

In ordinary circumstances, mildew effects do not give the textile dyer much trouble, since they are most generally prevalent on the gray goods and the stains are easily removable in the processing before dyeing. When trouble does occur, the dyer does not at first suspect mildew spots and oftentimes allows a considerable amount of goods to go through before he finds the real reason of his trouble. As these cuts show, mildew stains after dyeing appear generally to have the characteristics of an oil stain and are most generally taken for oil stains. The reason of the development of spots, streaks and stains, from mildew and dyed goods, is not generally understood. So some dyers have had to take a whale of a licking, not because of the mildew itself, but of its chemical effects. These are the developments of areas of a varying chemical reaction, sometimes on the alkaline side through the develoment of ammonia and amines, at other times on the acid side, no less than seven organic acids having been found in mildew stains. Of course you know that acetic acid is a product formed by fungi fermentation, but there are a number of organic acids other than acetic also produced, and many of them have not been investigated and their reaction in a dyebath determined. However, we do have such acids as lactic, butyric, oxalic, citric, and gluconic commonly found associated with textile mildews. And unfortunately in this respect the most common form of mildew, aspergillus niger, which is everywhere present, the same mildew that can be traced in cases from the black mold found on the cotton bolls in the field, right on through the processes of ginning, spinning, weaving, bleaching and finishing, with recurring production of mildew effects in the same lot of badly infected cotton, this species is one of the most vigorous acid producers. On dyed piece goods, mildew, if of recent formation and by reason of its acid or alkali formation, will show up as spots of usually a darker shade than the body dyeing, and be mistaken for an oil stain. Tendering is often, but not always, another effect. Tendering is caused by the rupture of the fiber envelope and the development within the fiber of the mildew growth. Under the microscope these damaged fibers have the appearance of having been chewed away by rats.

We have noted that the algae are a group of plants containing chlorophyll and distinguished from the fungi which do not contain chlorophyll, and therefore must of necessity lead a parasitic mode of life. Of the four main groups of fungi one includes the various bacilli and bacteria and plays a very important part in the terrestrial life. They multiply rapidly by a binary fisson under favorable conditions and by the production of hard walled spores in adverse circumstances. It appears that what we call mildew is the effect of the fungi group. The spore bearing kind is the most diverse and destructive.

Serious trouble from mildew in textile mills, especially finishing plants, is not very common. There are occasional winter seasons in the South in which outbreaks seem to occur much more frequently than usual. The past winted was such a season and the writer investigated trouble of this character in mills located in North Carolina, Tennessee, Georgia and Alabama. This is understandable when it is remembered that the most favorable temperatures for development of mildew are 65 degrees F. to 80 degrees F. Therefore continued temperatures within this range without intervening hard freezes serve to propagate and disseminate the infections. Drying to a very low moisture content kills practically all these organisms. We therefore have little trouble from them during the summer months.

Conditions are very favorable for mildew if the moisture content of textiles ranges from 10 to 12 per cent. Mildew does not develop upon textile fibres when the moisture content is 7½ per cent or less.

(Continued on Page 23)

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*Extracts from paper at meeting of Southeastern Section, American Associaiton of Textile Chemists and Colorists.

Peroxide Bleaching of Textiles

(*Continued from Page* 8)

or piled very much; some are bleached on sticks, which allow them to be hung in the peroxide solution and turned frequently; some are bleached by being run continuously through the peroxide solution in silk dyeing machines. Tussah silk piece goods are peroxide bleached to very clear ground shades for white or light colors in a short enough time so that the fibres are not injured to any extent. Silk knit goods are peroxide bleached, either by submersion in the peroxide solution or by running for an hour or less, through a peroxide solution in a string-dyeing machine. Silk hosiery that is made of all silk is usually white enough after the boil-off that it does not have to be bleached, even for white. In former years, almost all of the silk hosiery was made with cotton feet and hems, and unbleached cotton yarns were used. The object of bleaching silk hosiery then was to get the cotton white without hurting the silk. This is done best by the so-called one-bath method in which the cotton is fully bleached by the peroxide boil-off solution, before the gum is entirely removed from the silk. In fact, any fabric made of silk and cotton should be bleached by this one-bath method, as it will not injure the silk in bleaching the cotton.

RAYON BLEACHING

Rayon bleaching with peroxides is still in the embryo state. Practically all of the rayon used in textile manufacture comes from the producer already more or less bleached, so that it can be dyed without further bleaching. Until very recently, the manufacturers of rayon yarns have not been at all interested in peroxide bleaching, partly because it has involved comparatively high temperature processing for at least 30 minutes, which does not fit in with the elaborate bleaching equipment already in use, partly because former half-hearted attempts to peroxide bleach rayon on a large scale had been failures, and partly because of the impenetrable secrecy and mysteriousness connected with the entire rayon manufacturing industry. Lately, one of the larger producers of viscose type yarn has been, by a peculiar combination of circumstances, reported to be bleaching his entire production with peroxide. Now the other rayon manufacturers are beginning to show a few signs of interest, especially as there are being developed machines for desulphurizing and bleaching rayon in the original cake, which not only does away with much handling, but is considerably cheaper than skein or bulk processing. In the meantime, there has been a small amount of peroxide bleaching of rayon in skeins, piece goods and knit goods, which have all been done mainly by silk finishers and on silk-bleaching equipment.

COTTON BLEACHING

Cotton is being bleached with peroxide in the following forms: Raw stock, yarn, piece goods, knit goods and hosiery.

Cotton raw stock is being peroxide bleached in fairly large quantities, as part of the fast-color stock-dyeing processes, in the pressure or vacuum type of dyeing machines. The dyeing and bleaching seem to be reversible processes in that the stock may be bleached either before or after the dyeing. The main point of such bleaching is the obtaining of the required ground color and bottoming without affecting the carding or spinning qualities of the cotton. Cotton yarns of all types are being peroxide bleached in large quantities. This is being done in kiers or in equipment using the same circulation idea as the kier, and in the various package dyeing machines. Most of the yarn, especially that bleached in the package form, is given the one-boil bleach—that is, it is simultaneously bottomed and bleached. Some of the kier bleaching with peroxide is being done on yarns that have first been given either an open boil or a pressure boil in the same kier, in order to bottom and to clean them. The advisability of either the one-boil or the two-boil peroxide bleaching process depends entirely on local conditions and on the purposes for which the bleached yarns are to be used.

Cotton piece goods are being peroxide bleached in fairly large quantities in the ordinary steel kier. Almost any type of kier can be used for this purpose, although a kier in which it is possible to obtain circulation without heat is most desirable. The kier does not require, in general, any special preparation, nor does it need any special piping or attachments, in order to do successful peroxide bleaching. Some cotton piece goods that cannot be handled in rope form in the kier are peroxide bleached on jigs, usually by the one-boil method. For kier bleaching with peroxides, cotton piece goods are roughly classified into the following groups: Colored yarn fabrics, light-weight fabrics for plain whites, commercial colors, or prints, medium-weight fabrics for white or fast colors, and heavy-weight fabrics, which are mainly wide sheetings.

COLORED YARN FABRICS

Colored yarn fabrics, especially shirtings, are usually peroxide bleached by the one-boil method. The gray goods, preferably after a good steep, are washed into the kier, simultaneously boiled out and bleached, and then washed into the white bin. If the goods are mercerized in the gray, it is advisable that they be soured before the kier bleach boil. A 5-ton kier of colored goods requires from six to eight hours in the kier for this bleaching process. The signle-boil peroxide bleach for colored yarn fabrics has been so well worked out that it is standard routing in almost every bleachery that does colored yarn work. Colored yarn towels may also be handled in the same manner, but some of the cottons going into toweling are so dirty that it is usually advisable to give towels either a thorough continuous washing on their way to the kier or to give them an easy preliminary boil in the same kier before the peroxide bleach boil.

LIGHT, MEDIUM AND HEAVYWEIGHT FABRICS

Light-weight fabrics are usually given a short caustic pressure boil before the peroxide bleach boil in the same kier. The goods go from the gray room into the kier and from the kier to the white bin with a minimum of pulling and handling. This is so desirable that the peroxide process is standard routing for light-weight goods in many bleacheries that do all their other work with chemic. A 5-ton kier of light-weight goods requires from four to six hours for the bleaching. Medium-weight fabrics, especially shirtings and those that are to receive fine dyeings, are usually well desized or otherwise prepared before the caustic pressure boil. In some cases, depending on local conditions, the goods may be peroxide bleached in the same kier in which they were boiled out. The safest method is to transfer them through a washer into another kier for the bleach boil. The peroxide bleach of a 5-ton kier of goods of this type requires from five to eight hours. Heavy-weight fabrics are given one and sometimes two caustic boils before the peroxide bleach boil. After the first boil, the cloth is always transferred through a washer. If it receives a second boil, the peroxide bleaching is done in the same kier in which the second boil is given. For a two to three hours' running time at a boil. The one-bath method is also the best for the kier bleach, as it leaves

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PERSONAL NEWS

D. R. Senn has been promoted from superintendent of the Enterprise Mill to assistant to the chief engineer, Enterprise and Sibley Mills, Augusta, Ga.

John Klinck has been transferred from superintendent Sibley Manufacturing Company to superintendent of the Enterprise Mill, Augusta, Ga.

Walter Dillard, Jr., has been promoted from assistant superintendent to superintendent, Sibley Mills, Augusta, Ga.

C. C. Page has been promoted from overseer spinning, Enterprise Mill, to night superintendent, Sibley Mill, Augusta, Ga.

John White, formerly overseer slashing, Brookside Mill, Knoxville, Tenn., is now holding a similar position with Sibley Manufacturing Company, Augusta, Ga.

J. F. Morris, formerly of Rhode Island, is now superintendent Puritan Weaving Company, Fayetteville, N. C., succeeding J. B. Council, deceased.

B. F. Sorgee, of Burlington, N. C., is now night overseer weaving, Puritan Weaving Company, Fayetteville, N. C.

J. F. Lockey, formerly superintendent of the Wilbur Cotton Mills, Troy, N. C., has accepted a position in the textile department of the Tennessee-Eastman Corporation, Kingsport, Tenn.

Miss Rose Warren, who has been associated with the Fabric Development Department of Du Pont Rayon Company for five years as a stylist, has resigned to become an independent stylist specializing in rayon fabrics. Miss Enrey, who was with Du Pont Company in a similar capacity, is assuming Miss Warren's duties with that company. Miss Enrey has been in the dress business and has a wide acquaintance among the Paris couture.

Southern Manager for Veeder-Root

Arthur E. Kallinich has been appointed field sales manager for Veeder-Root, Inc., of Hartford, Conn., and Bristol, Conn., with his office at 1401 Woodside Bldg., Greenville, S. C. Mr. Killinich had previously been connected with the Hartford office and has long experience in the manufacture of loom counters and similar devices.

Hickory Handle Company Agents

Stevenson & Burgess, of Charlotte, N. C., and Greenville, S. C., have been appointed selling agents for the Hickory Handle Company, of Conover, N. C., manufacturers of high grade picker sticks.

Charles Cannon To Be Host To Military Company

Concord, N. C.—Charles A. Cannon, president of the Cannon Mills Company, will again be host to Company E, Concord's unit of the State National Guard, at a New Year banquet, invitations having already been mailed out to guests.

The banquet will be held at 7:30 p. m., Monday, January 9, at Hotel Concord.

Riverside & Dan River To Pass Dividends

Danville, Va.—The Riverside & Dan River Cotton Mills, Inc., will pass the dividends on $750,000 preferred and $750,000 common stock due January 1, it was announced Saturday, following a meeting of the board of directors. This was done because, while the mills are running at full capacity, the low price of textiles affords a narrow margin of profit and one which in the opinion of the board did not justify the January disbursement. It was the third dividend passed. The mills will close for the Christmas holidays from December 23 to January 2.

Tubize Files Second Suit Against Industrial Rayon

Wilmington, Del.—The Tubize Chatillon Corporation of 2 Park avenue, New York, has filed suit in the Federal Court here against the Industrial Rayon Corporation of Cleveland, Ohio, alleging infringement of a patent for the manufacture of aritficial silk filaments granted to James A. Singmaster of Bronxville, N. Y.

Tubize Chatillon Corporation asks for an injunction against Industrial Rayon Corporation. Another patent infringement suit brought some time ago by Tubize Chatillon Corporation against Industrial, involving another Singmaster artificial silk patent is still pending in Federal Court here.

It is understood that the second patent infringement suit like the first relates to the manufacture of chalky yarns.

"Sonoco Products"

A beautifully printed 60-page booklet with the above title has just been published by the Sonoco Products Company, of Hartsville, S. C.

The book, while devoted principally to a description of the wide range of products made by the company and also gives a very interesting historical sketch showing how the present organization developed from the small beginning in 1899.

Major James L. Coker, founder and first president of the Sonoco Products Company, was one of the pioneer industrialists of South Carolina. In 1899, he founded the Southern Novelty Company to manufacture paper carriers, tubes, cones and other products for the textile mills. He continued in active charge of the steadily growing business until 1911 when he retired and his son, C. W. Coker, became the second president of the company. The business continued to develop rapidly under the capable guidance of C. W. Coker, who directed until his death in 1931. J. L. Coker III succeeded to the presidency, bringing to the position the same outstanding administrative ability which had been a powerful factor in its continued success.

The new catalog of Sonoco products is illustrated in colors and is a strikingly beautiful example of printing art. The extensive line of cones, tubes, bobbins, underclearers and other products developed by the company, with their varying color schemes to facilitate handling in the mills are shown in actual colors and described in detail.

The Sonoco Products Company has a large business in textile mills in this and foreign countries and is recognized as one of the leaders in its field. The book just issued by the company reflects the quality of its products and is being received in the textile trade with unusual interest and appreciation.

Besides the main manufacturing plant in Hartsville, the Sonoco Products Company operates branch plants at Rockingham, N. C., and Plainfield, N. J. Eastern sales offices are at Plainfield.

Foreign representatives of the company are located in Mexico, Canada, England, Spain, China, Australia and Brazil.

In addition to J. L. Coker, III, president, other officers of the company are D. R. Coker, first vice-president; C. W. Coker, Jr., second vice-president; C. K. Dunlap, secretary; J. B. Gilbert, treasurer, and C. H. Campbell, sales manager.

Mill Men Favor Constructive Farm Relief

The following statement is from B. B. Gossett, president of the American Cotton Manufacturers' Association:

"I wish most emphatically to correct the erroneous impression which apparently exists in some directions that the cotton textile industry is fighting farm relief. Nothing could be further from the truth. As a matter of fact, it is generally recognized throughout the industry that some kind of farm relief legislation is inevitable.

"From my own personal standpoint there is nothing more tragic in American life today than the plight of the farmer. This is particularly true of the Southern cotton farmer. Therefore, the cotton textile industry would not only welcome but would gladly lend its active support to any sound plan for farm relief that would not seriously injure the industry.

"It should be borne in mind in this connection that the cotton textile industry itself is in a bad way. Its plight is a matter of common knowledge. In some respects it is even in worse shape than agriculture. Its operatives must be thought of in any legislative plans adversely effecting them either directly or indirectly. Its stockholders with many hundreds of millions of dollars invested must not be overlooked. It must be remembered that very few of these stockholders are receiving any returns on their investments. As a result, many of them are feeling the pinch of the depression even more than the farmer himself, however unfortunate his plight may be.

"In our judgment if the so-called domestic allotment plan should be enacted into law in its present form, it is very doubtful if it would really help the Southern farmer. On the other hand, it is very clear that it would result disastrously to the South's greatest basic industry—the cotton textile industry. It is for these reasons that we are opposing the domestic allotment plan in its present form.

"There is one point in particular that those of us in the South should bear in mind, that is, that the chief agitation for the domestic allotment plan comes from the agricultural West which has very little interest in industry. Personally, I have never felt nor do I now feel that either the present Congress or the incoming Democratic administration will adopt a plan of any kind that will work disaster to industry and especially the cotton textile industry. It is therefore possible that some plan such as the domestic allotment plan can be worked out on a sound basis effecting the wheat grower of the West while perhaps some other plan can be developed that will afford a measure of relief to the Southern cotton farmer. It is certainly by no means clear that cotton and wheat should be tied together in any plan.

"The American Cotton Manufacturers' Association has for many months been advocating a tariff on jute. This proposal has had the backing of many of the leading farm organizations in the South, because it is realized that the effect of an adequate tariff on jute would be to increase the domestic consumption of American cotton by at least one million bales per annum to begin with and undoubtedly the ultimate effect would be to increase the domestic consumption to perhaps even two million bales. It is of course perfectly obvious what this increased domestic consumption of American cotton would mean to the Southern grower not mentioning the benefits that would accrue to the cotton textile industry. Surely nothing could be done under existing conditions that could effect more happy results than a plan to afford relief to the Southern cotton grower and at the same time give relief to the South's greatest industry."

Cone Mills Will Distribute Hams

Greensboro, N. C.—The Proximity Manufacturing Company will distribute approximately 2,800 hams to the families in the Proximity, Revolution and White Oak and Print Works villages, this being an annual custom of the management at Christmas.

The mills will close Friday evening and will reopen Tuesday morning, but one day, Monday, being allowed for the holiday observance.

Viscose Co. Operates Its Roanoge Plant On Seven-Day Week

Roanoke, Va.—Viscose Company is operating its Roanoke plant on a seven-day week basis as a result of the heavy demand made on textile manufacturers, it is reported by H. C. Neren, superintendent. Approximately 4,200 persons are employed, which is about the same number that were on the pay roll when the plant was shut down in June for five weeks.

The plant is producing about half a million pounds of rayon yarn a week, Mr. Neren said, and at this rate the 1932 production will be less than that of last year, just how much he cannot foretell. He said the plant was flooded with orders at the end of its shutdown, which necessitated the seven-day basis, which was started early in November.

High Point Factory on Full Time

High Point, N. C.—The Hillcrest Silk Mill has inaugurated operations on a full-time schedule and will add from 50 to 75 weavers during the week. Other help will be added as the various departments reach the capacity schedule after operations heretofore somewhat curtailed. The mill normally employs 400 to 500 workers.

Cotton Ginnings

Washington.—Cotton of this year's crop ginned prior to December 13 was reported by the Census Bureau to have totalled 12,085,648 running bales, including 622,125 round bales and 6,677 bales of American-Egyptian.

To that date last year ginnings aggregated 15,354,212 running bales, including 534,064 round bales and 7,927 bales of American-Egyptian.

Cannon Opposes Domestic Allotment Plan

Charles A. Cannon, prominent North Carolina mill executive, appeared before the Agricultural Committee of the House of Representatives last week to file objections to the enactment of the Domestic Allotment Plan of farm relief. Mr. Cannon, who is president of the Cannon Mills and president of the Cotton Manufacturers'. Association of North Carolina, opposed the proposal, which would include a tax of 5 cents per pound on cotton, on the grounds that it would not benefit the cotton planters and would severely handicap the cotton manufacturers and the cotton trade generally.

In stating his views on the Domestic Allotment Plan, Mr. Cannon said:

The proposed Domestic Allotment Plan, as I understand it, is intended to increase the buying power of our farmers by giving a bounty to those who reduce production.

If the farm population can be helped and employees of various industries not thrown out of work I am sure the textile industry would welcome any law that might be enacted to accomplish this result. I would like to present to you a few thoughts as to how the suggested tax of 5 cents per pound on cotton might work out for the cotton producer, the textile worker, cotton manufacturer, the railroads in the South, etc.:

Cotton is our most important export commodity. We manufacture in this country about 40 per cent and export about 60 per cent of our production. I believe we employ more than 400,000 operatives in the cotton mills of this country. The cotton mills had more than 36 million spindles in operation about 10 years ago. This has been reduced to about 32 million spindles in place and about 25 million in operation.

The railroads of this country serving the cotton producing area and the railroads serving the manufacturing area have a great interest in the domestic consumption as it materially affects their revenues.

If the tax of 5 cents per pound is assessed, will it help the farmer? Will production of cotton be reduced?, as has been suggested by signed agreements, etc. I think the answer to both questions will be no.

The farmer would not receive the 5 cents per pound less expense but 40 per cent of 5 cents per pound on his total production or 2 cents per pound less expenses on his entire production. The American consumer would pay the full tax which would be more than 5 cents on account of the waste, including bagging and ties and all foreign substance in cotton, which are now paid for at the same price. Or, expressing it differently—a 500-pound bale of cotton with a tax of $25 would produce 400 pounds of cotton goods. This would mean a tax of 6¼ cents per pound to the cotton goods buyer. Many goods are today being sold at 15 to 18 cents per pound. This is a sales tax of 33 1-3 to 40 per cent. Can there be any doubt that an increase of this kind would reduce the quantity of goods used? If consumption is reduced—if instead of 40 per cent being used by American mills for American consumption the percentage should drop to 30 per cent, the cotton producer would immediately drop to a possible 1½ cents bounty less expenses while the American consumer would continue to pay the same 6¼ cents per pound.

It has been suggested that 60 per cent of the producers of cotton could request that the plan become operative upon agreeing to reduce acreage (in one plan the reduction of acreage was not to be more than 10 per cent in any one year) I would call attention to the fact that cotton acreage has reduced between 9 and 10 per cent last year and it is estimated the present crop has been reduced about 9 per cent. In spite of this fact we have the biggest carryover we have ever had.

Is it unreasonable to assume that the producer will keep his best land under cultivation, that increased fertilizer will be used on the reduced acreage, that a smaller acreage will be more intensively cultivated? If it is not, then it seems reasonable to expect a larger production per acre and therefore a smaller reduction than would be needed.

If only a part of the producers curtailed acreage, those who would elect to produce cotton with no bounty (and remember the bounty is not $25 per bale on the entire crop but possibly $7.50 to $10 less expense) could readily increase acreage enough to offset the entire reduction and the amount of American cotton produced could easily show a substantial increase to be added to our already burdensome supply.

If the amount of cotton to be exported is increased by less consumption in U. S. or by new production, it seems to me that the world price would be lowered and in the end our producer might receive much less than he is now getting for his total crop.

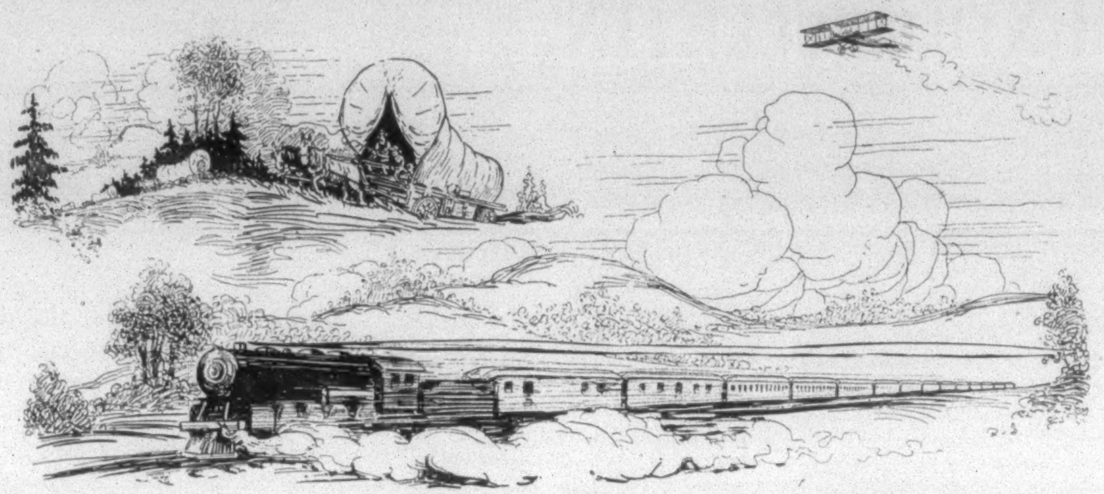
I have so far considered only the producer's problem. I wish now to impress on you the need for increased American consumption and the result of decreased consumption:

Every bale of cotton consumed in American mills gives employment, purchasing power to textile operatives, increased railroad revenue and employment not only on the cotton but on all supplies for the mills and their employes including coal, dyestuffs, starch, chemicals and all articles used by the mills. The freight on finished goods is just as important to the railroad as the freight on the raw materials and supplies. Every bale of cotton shipped abroad that could be manufactured here reduced employment in the U. S., creating less buying power and less demand for all supplies.

The textile operative in the South has been recruited largely from the farm. If the work of the mill is to be further curtailed by putting cotton out of competition with jute and paper for wrapping purposes on account of the tax of $25 per bale, also increase its competition with linen, rayon, silk, wool and all other fibres, we will have a serious unemployment condition; some will return to the farm, increasing the production of cotton and other commodities not needed at this time, and it should be borne in mind that most of these commodities are imported. Silk, linen and jute all come from abroad. Paper to a large degree and rayon partially.

The textile mills have attempted to operate at a reasonable rate for the entire year. With a tax intended to

(*Continued on Page* 24)



Could You *Afford* To Go To California by "Covered Wagon" Today?

Sounds like an absurd question, yet a substantial number of mills in the South today are at the threshold of a situation which is fast nourishing an industrial condition almost as inexcusable, dangerous and profitless as going to California would be by the obsolete, tedious "Forty Niner" transportation methods—*permitting a decline in the well known high standards of textile mill machinery equipment.*

The South took the lead in textile manufacturing because it was free from the hampering traditions and methods of other sections of the country, and because it eagerly investigated every worthwhile improvement in textile machinery, manufacturing and mill practice, and quickly adopted those of proven efficiency. *We cannot recede, go backward, from this eminence and hold the leadership of which we are justly proud.*

The world today looks to the South for big scale production of quality textiles. *But leadership, however strenuously won or seemingly secure, may be lost by a brief relaxation of the will to lead.*

NOW is the time to scrupulously examine your mill and make those improvements you know should be made.

Equipment manufacturers will quote you reasonable prices today, and in addition give you an unprecedented measure of engineering help and counsel.

The market has been stripped bare of textiles. Widespread refilling of stocks will inevitably develop orders of staggering size—orders that will restore production and profits on a scale bigger than ever.

To be ready for the swing back—and it's bound to come—*get ready NOW.* There never before was such a favorable time to get out some of your wornout, obsolete equipment and get in modern money-saving equipment in its place. *Equipment manufacturers will meet you more than half way if you get busy about it now.*

This Message Was Prepared And Space
Contributed By

Southern Textile Bulletin

In Collaboration With

The Committee on Industrial Rehabilitation

SOUTHERN
TEXTILE BULLETIN

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Cotton Duck at the Atlanta Penitentiary

The Cotton Duck Association, the Association of Cotton Textile Merchants, the National Association of Cotton Manufacturers and the American Cotton Manufacturers' Association has presented in a very efficient manner and in a well prepared brief a case against the manufacture of cotton duck at the Atlanta Penitentiary.

The second paragraph of their brief says:

> It (the Atlanta Penitentiary) is the largest producer of wide duck in the United States. The total production of 5,000,000 pounds of wide duck per year constitutes 25 per cent of the wide duck production of all free mills combined.

With over 8,000,000 cotton spindles idle in the United States and thousands of mill employees suffering because of lack of work, the United States Government goes into the duck manufacturing business upon a very large scale and is now planning to still further expand its production.

Mills which had for years manufactured duck for mail bags and for other Government purposes had to seek other markets with the result that there was increased competition in the open market and prices declined to the point that duck mills were forced to curtail and employese found themselves without work.

A good case has been made out against the cotton duck mill at the Atlanta Penitentiary and it should curtail or entirely cease operations on duck and allow outside duck mills to resume operations and give employment to their former operatives.

At Taxpayers Expense

On Monday the House passed, without a dissenting vote, the Jones bill to allot another 329,000 bales of the government's stabilization cotton to the Red Cross for relief distribution.

This means business for cotton mills and we are supposed to be jubilant over that fact, but we have about reached the point that we are against anything which is "at the expense of taxpayers."

The donation of this cotton is giving away the property of the taxpayers and the money represented by the gift must be replaced by getting money out of the pockets of the people through some form of taxation.

If it is right for Congress to give away cotton in order to keep cotton mills in operation every other industry has a right to call upon the public treasury for expenditures which must be ultimately covered by the collection of taxes and the cotton mills must pay their part.

We are tired of paternalism and of quack remedies and believe that the return of prosperity can not be secured by expending public funds and then seeking to replace them by finding new forms of taxation.

There may be temporary distress if the public treasury is closed to invaders and self reliance becomes the order of the day but in the end that policy would be for the benefit of every citizen.

Chas. Cannon's Testimony

On page 16 of this issue we are publishing the testimony given last week by Chas. A. Cannon, of Kannapolis, N. C., before a committee of Congress in opposition to the Allotment Bill.

We suggest that cotton manufacturers study the position taken by Mr. Cannon and send somewhat similar protests to their Congressmen and Senators.

Debt Cancellation Propaganda

Somebody seems to have enough interest in getting the United States to cancel war debts to be willing to engage in propaganda, for we have received this week a copy of the Seattle, Washington, Sunday Times containing a marked article.

The article was evidently written for the purpose of attempting to scare the people of the U. S. into agreeing to cancellation because it claims that we will lose all of our foreign trade if we do not cancel.

The bonds which were issued to obtain the money loaned to European nations must be paid by Europe or by the people of the United States and we contend that they should be paid by those who secured the money.

It has been often stated that the big banks who made private loans to European countries and European business men have an interest in getting the United States to cancel its loans.

Down Off The Hills

We notice the following lines in a poem published last week:

> Men must come down from off the hills
> And walk the valleys now and then.

If they must come down they are certainly down, for most men are walking in the valleys now.

The important thing is select a safe path back to the hills and to be sure that the trip will be certain and safe. Too many men are hoping for and expecting an easy and quick return trip and are liable to be disappointed.

"No More Alibis"

(Reprint from Business Week)

As we approach the end of the third year of this depression there are a number of things that need to be said, among ourselves, about the business situation. We propose to drop the formalities, amenities and mannerisms of orthodox editorial style and discuss them with you in a simple and straightforward way. This is a start. If we seem too personal, excuse it, please. Our sole purpose is to help a bit.

The immediate prospects of business improvement are admittedly not very clear at the moment; the problems that lie ahead make a list as long as your arm, and some of them are very perplexing. But we can say quite sincerely that there is nothing about either the prospects or the problems that disturbs us seriously except the attitude and state of mind of business men themselves toward them.

We are as certain of the ultimate recovery and continued expansion of American business as we are of tomorrow's sunrise. We are equally sure that not every business concern is going to recover; and that recovery will not come without drastic readjustments in many individual concerns and far-reaching changes in some elements of our economic structure and methods. But we do not see anything in this to be sad about. The only thing that bothers us is the persistent tendency of business men to postpone the decisions necessary to such readjustments, and their repeated refusal to face the fundamental realities of such changes as have already occurred in the business situation.

It seems to us that American business has succumbed to the alibi habit. Most business men have been waiting for something to happen, quite independently of their own effort, that would make any initiative on their part unnecessary. The story of American business during this depression can be summed up in the long series of such alibis, starting with the stock market crash in 1929 and running down to the war-debt problem at the present time, by which we have postponed individual action and passed the responsibility for delay in recovery to some situation or event outside business management itself.

Perhaps we professional reporters and interpreters of business conditions are partly to blame for this because we have put so much emphasis on political, financial, international factors in the situation and spent so much time analyzing them. Whatever the reason, it has been a serious mistake for American business to concentrate its attention so largely on these external conditions. It is time we regained our perspective and recognized where the responsibility for recovery lies.

Do not misunderstand us. We are not so superficial as to imply that this depression and its prolongation are merely a product of a state of mind, or that these external factors are not real or significant. They are certainly important in the long run development and preservation of prosperity; but they have never been as immediately important for recovery as is the intensive application of executive intelligence and energy to the tasks of reconstruction in the individual concern. Even if these external problems were perfectly solved on paper by some supernatural power, recovery could not come and prosperity could not be restored without the effective management of the individual enterprises that make up American business. Certainly if we wait for them to be solved by somebody else before we do anything ourselves, our own difficulties will only become harder to deal with.

At any rate, the wise business man will not wait in 1933 to see them solved. He will take an intelligent, public-spirited interest in them, but he will not let it interfere with his initiative in bucking down to the job of rebuilding his own business. This is a many-sided job; we shall discuss some aspects of it on this page later. It calls for courage, ingenuity, open-mindedness, honesty, and the best way for business to begin is by breaking off the alibi habit now.

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MILL NEWS ITEMS

WORTHVILLEE, N. C.—The Leward Cotton Mills have been awarded the contract to furnish all of the Canton flannel needed by State institutions, by the State Division of Purchase and Contract, at Raleigh.

FLORENCE, ALA.—The Gardner-Warring Knitting Mills are now operating additions built during the past few months and employment is being given to several hundred persons. Other additions to mills in textiles lines are under consideratino and will shortly be taken in hand.

NEW ALBANY, MISS.—Attributed to an increase in orders, work has been started for an annex to the local branch of the Tupelo Garment Company. L. A. Herrington, manager, said that approximately 100 new machines will be installed, which will give employment to over 100 people, and will increase the monthly payroll at least $1,000.

STATESVILLE, N. C.—The Phoenix Mills, Inc., of this city, has been awarded contract to furnish sweaters for institutional needs of the State of North Carolina by the State Division of Purchase and Contract. Although the gross amount of this contract was not given, it is understood that it is a large one.

ROCKMART, GA.—The Goodyear Tire & Rubber Co. is enlarging the Rockmart Mill by adding 16,000 spindles, increasing the number to 67,000.

The machinery is being taken from the Killingsley Mills, of Connecticut, which is being dismantled. A part of this equipment also will be installed in the Atco Mill at Cartersville, it was stated.

BOSTON, MASS.—Appleton Company, of Anderson, S. C., and Lowell, Mass., reports, for the fiscal year ended October 29, 1932, a net loss, after all charges, of $25,227, as compared with a net profit, after charges in the previous year, of $127,976. The South Carolina plant, where all of the company's manufacturing is done, closed the fiscal year with a profit before depreciation of $199,190, and after depreciation of $153,127, a net profit of $46,063. A year ago the Southern plant experienced a net profit after depreciation of $153,209.

The Lowell plant, which is purely a renting proposition, sustained a loss of $18,252, but after depreciation charges of $53,037 there was a net loss at Lowell of $71,290.

The balance sheet as of October 29, 1932, shows current assets of $1,259,232, of which $363,000 was cash, and current liabilities of $40,763, leaving a net quick of $1,218,469. Despite the company's loss, the "quick" financial position showed considerable improvement, a working capital of $1,218,469 this year, being $138,000 greater than a year ago. The surplus account as at the close of the fiscal year amounted to $2,467,184, as compared with $2,631,806 a year ago. Merchandise inventory was reported at $396,279, as against $484,455 a year previous. Cotton in bale and in cloth was inventoried on the basis of 6.75 cents per pound.

At the annual meeting of the stockholders, which was held in the safe deposit room of the First National Bank here, all officers and directors were re-elected.

MILL NEWS ITEMS

GRAHAM, N. C.—The Travora Manufacturing Company is installing complete unit for softening water.

FAYETTEVILLE, N. C.—Employment will be given to some 200 persons when the Binz Silk Mill here reopens under new management shortly after the first of the year. The mill, which has been idle for several months, will be opened by the Central Weaving and Spinning Company, a local corporatin with New Jersey capital backing, and will be operated under a lease, it was announced. New machinery will be installed as found necessary.

Organizers of the new company are H. L., A. E. and E. S. Cook and M. L. Williams.

COVINGTON, VA.—The Schwarzenbach-Huber Company, silk manufacturers, which has been operating with about 25 per cent of its normal force, starting next week will put back to work about 80 girls. At present only about 40 girls are working.

When the new force starts work the mill will have a running force of about 120 girls, or half of the force in normal times.

The management said the extra force will be given employment through January, and perhaps longer, saying the outlook in the silk business is much brighter than at any time during the past six months.

Mills Close for Holidays

An important number of Southern mills will close for a week or longer for the holidays. Among those who are planning to close are the following:

Dallas Mfg. Co., Huntsville, Ala., will be closed down the week of December 26-31. Consolidated Textile Corp. announced that its Lynchburg Division, Lynchburg, Va., Ella Division, Shelby, N. C., and Union Division, Lafayette, Ga., will be closed the week commencing December 26. Talladega Cotton Factory, Talladega, Ala., announced its plan to close for a week or longer.

Dixie Mercerizing Co., Chattanogoa, Tenn., will be closed for one week. The several plants of the Mt. Vernon-Woodberry Mills, Baltimore, Md., will be closed the last week of the month. The Standard Textile Products Co. announced that its several plants will be closed December 23 to January 2. Merrimack Mfg. Co., Huntsville, Ala., will be closed for one week. Joanna Cotton Mills, Goldville, S. C., will be closed December 24 to January 9. Jno. P. King Mfg. Co., Augusta, Ga., will be closed one week.

Marshall Field Mills, at Leaksville, N. C., and Fieldale, Va., announced their plans to close December 23 to January 2. Royal Cotton Mills, Wake Forest, N. C., announced their plans to close from ten to fifteen days during the holiday period.

R. L. Huffines, Jr., of Clayton, N. C., stated that his plants would close down for a minimum period of one week and possibly more. Greenville Cotton Mills, Greenville, N. C., and Smithfield Mills, Smithfield, N. C., will be closed at least ten days. Columbus Mfg. Co., Columbus, Ga., will be closed the week including Christmas and New Year's. Lonsdale Co. plant, at Seneca, S. C., will suspend operations from Friday, December 23, to Monday, January 2. Its Hope Mill in Rhode Island will observe a longer holiday period.

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for the

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Manufactured at Charlotte—

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Illness Delays Arcadia Hearing

Spartanburg, S. C.—Hearings on the suit and counter claim of the Bankers' Trust Company and the Arcadia Mills came to a halt when U. S. Court reconconvened here, due to the sudden sickness of three jurors. Federal Judge J. Lyles Glenn, president, ordered a recess until noon next Tuesday.

This litigation, one of the most important in the local annals of Federal Court, consumed three days last week, the time being taken up by the examination of H. Arthur Ligon, president and treasurer of the Arcadia Mills. When court recessed for Sunday Mr. Ligon's testimony had been completed. Some twelve or fifteen additional witnesses are to be examined, it is stated.

Counsel for the New York banking house, James H. Price, brought up the receivership issue last week for the purpose, so he stated to the court, to show that the credit of the mill was damaged through losses in operation and internal conditions rather than by the alleged failure of the Bankers' Trust to carry out a loan agreement. Mr. Ligon admitted that $75,000 was borrowed from the Arcadia Mills and charged to the Ligon estate. Counsel also brought up the question of salaries and management of the plant. Mr. Ligon stoutly denied a question of counsel as to whether or not the affairs of the mill were being "grossly mismanaged."

The complaint brought by the Bankers' Trust Company alleges that the mill owes it $220,000 in open notes which funds were advanced up until early June of 1931. Mr. Ligon testified that when banking relations with the Bankers' Trust were first opened, a line of credit up to $400,000 was suggested by the bank.

The counter claim of the Arcadia Mills for $2,000,000, set up in its answer to the complaint, alleges that the Bankers' Trust agreed to accept an issue of mortgage bonds from the mills in payment of this obligation, and that depending upon this reported agreement, a favorable arrangement with Joshua L. Bailey & Co., of New York, commission agents, had been reached to finance the operations of the plant and sell its products.

Through the failure of the Bankers' Trust to accept these mortgage bonds when tendered, and the suit which was filed, the mill alleged that its credit was injured, its operations restricted, certain favorable provisions with Bailey & Co. were lost, and the plan thas deteriorated from the lack of necessary operating funds.

In its answer the Bankers' Trust denies any existence of a definite refinancing agreement and denies responsibility for any financial losses that mill may have sustained.

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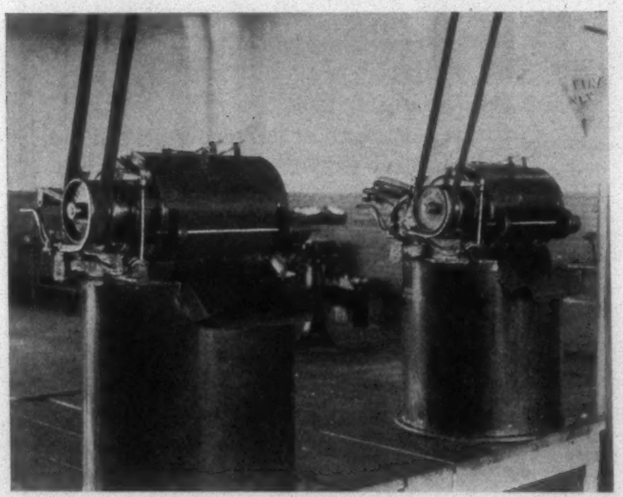

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Geo. Thomas & Co., Ltd., Manchester England, Agents for Great Britain and Continental Europe

Cotton Bags for Retail

Successful experimental use of cotton bags for retail put-ups of onions last year has resulted in their more general adoption for this purpose by one of the largest commission houses in the New York wholesale produce market. This firm, according to the New Uses Section of the Cotton-Textile Institute, first tried out 100,000 bags of the 10, 15 and 25-pound sizes. Later, 300,000 bags were used, and during the present season the firm has to date required more than 1,000,000 cotton bags, for the packaging of onions in the popular retail sales units.

One of its customers, a large chain organization, gave a trial order this season for 25 carloads of onions put up in open mesh cotton bags of various sizes. The chain store managers were directed to call the special attention of housewives to the cotton bags and to emphasize their reuse possibilities as dish-cloths, mop pads, or dusting cloths. Speedy sale of the onions led to a repeat order for a larger quantity packaged in cotton. Fifty-two railroad carlods of onions were thus disposed of within a few days.

This use of cotton bags follows similar successful experience in the retail packaging of potatoes and oranges. Millions of cotton sacks are now used annually by the potato shippers of Idaho, Maine, Long Island and other important producing centers. Adoption of cotton sacks for oranges is another recent development offering a market of about the same proportions as that created by the packaging of potatoes in cotton bags.

Aragon Club Meets

Rock Hill, S. C.—The Efficiency Club of the Aragon Mill, composed of overseers and superintendents of the various departments of the mill, enjoyed a banquet supper. R. B. Revels, overseer of weaving and president of the club, was in charge.

Dyeing and Finishing Troubles Caused By Mold Fungi or Mildew

(*Continued from Page* 11)

The gray goods mill suffers the greater money loss from mildew damage than the finishing plant. The finishing plant inspects goods coming from various weaving mills and is on the alert watch for material damaged by mildew. Usually these mills do not have available the services of textile chemists but have relied largely upon the recommendation of their sizing compound manufacturers. These manufacturers have incorporated antiseptics such as zinc chloride and while putting enough of this chemical in their product to protect the same from fermentation this amount has been entirely inadequate to protect the yarns coming from the slasher. Knowing this they have speeded up the slashers in order to keep the moisture content down to 8 per cent. If reference is made to a study of antiseptics for mildew which was promoted by the British Association of Cotton Manufacturers more especially through the article appearing in the Journal of the Textile Institute, under the title of the "Inhibitory Action of Certain Substances on the Growth of Mould Fungi," it will be seen that it would require 6½ pounds of zinc chloride contained in a 100-gallon kettle of size to be effective. The customary quantity of sizing compound of the nature of a softener is in the order of 25 pounds, more or less, to a 100-gallon mix. Therefore a compound would have to contain 25 per cent of zinc chloride.

Like zinc chloride all other inorganic antiseptics are ruled out by the large quantity required. Certain new organic compounds, however, are so powerful that a volume concentration of only .02 per cent entirely prevents mildew growth and a marked inhibitory effect is obtained with a solution of .005. In other words a 100-gallon size mixture which contained only 4 ounces of this material would be effective.

For all of the previously mentioned dyeing troubles caused by mildew and the damage done by mildew before the goods reach the dyer, there are available effective chemical means of mildew-proofing of textile fibre at its various stages. In the silk mills it can be used in the silk throwing solution, the back-winding emulsion and the trough moistener on the knitting machines. Combined with penetrants it can be used in the dye bath. In cotton finishing mills it can be combined with any filling or back-filling materials whether finished acid or alkaline. But as it will be quite a long time before the mills will utilize modern chemical antiseptics, infections can be controlled by having thorough mill ventilation, especially the avoidance of local pockets of stagnant air and the covering of concrete floors with asphalt damp proofing. Occasionally a badly inspected finishing mill will need thorough sterilization, which can be accomplished by the use of chloride of lime solution or other hypochlorite, going over bins and such equipment as can be reached. The hypochlorite treatment can be followed by the use of a weak acidified bisulfite solution.

SUPERINTENDENTS AND OVERSEERS

We wish to obtain a complete list of the superintendents and overseers of every cotton mill in the South. Please fill in the enclosed blank and send it to us.

________________, 193____

Name of Mill ________________

Town ________________

________ Spinning Spindles ________ Looms

________________ Superintendent

________________ Carder

________________ Spinner

________________ Weaver

________________ Cloth Room

________________ Dyer

________________ Master Mechanic

Recent changes ________________

____

____

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THE CHEMICAL HOUSE OF THE SOUTH

Peroxide Bleaching of Textiles

(*Continued from Page* 12)

5-ton kier of heavy-weight goods the peroxide bleach requires from five to eight hours.

COTTON KNIT GOODS AND HOSIERY

Cotton knit goods are being peroxide bleached, either on the ordinary string-dyeing machine or in kiers. The one-bath method is always used on the dyeing machines, the knit goods in the softest and most elastic condition possible. Some bleachers, however, are giving knit goods a short preliminary caustic boil before the peroxide bleach boil. A 2-ton kier of cotton knit goods requires about five to eight hours for the peroxide bleaching process. Cotton hosiery is usually bleached with peroxide in the ordinary monel-metal hosiery dyeing machine by the one-bath method. A boil of one to two hours is required for a full white.

SEMI-RESEARCH WORK

A great amount of semi-research work and experimentation is being carried on now with the object of reducing the cost of peroxide bleaching. A reduction in the unit cost of bleaching wool or silk results in the use of peroxide on cheaper classes of these fibres. A reduction in the unit cost of bleaching rayon or cotton results in the peroxide bleaching of a larger poundage or yardage of these fibres which are now being bleached with other chemicals, mainly hypochlorites.

Textile machinery manufacturers are beginning to recognize the possibilities that peroxide bleaching presents to them for designing and building equipment for continuous bleaching, and are therefore taking it much more seriously than they did several years ago. It has almost been proved in several cases during the past two years that, even with the handicaps of equipment now available, a new bleachery can turn out bleached goods at a lower total cost per yard of cloth or pound of yarn with the peroxide bleach than with the hypochlorite bleach. Within the next five or ten years, many, if not all, of the present bleacheries will need rebuilding and replacements. A thorough investigation by bleachery managers of the possibilities of peroxide bleaching and its application to their type of work will result in many new adoptions of the peroxide bleach. In the meantime more is becoming known, almost daily, about the construction materials and operating equipment most desirable for peroxide bleaching. Many improvements, some of them quite revolutionary in their scope and results, are being made in the technique of peroxide bleaching. These should be available to the trade during the next year.

All that is necessary for successful peroxide bleaching is the correct balancing of the several variables that are involved in this kind of processing. The most important of these are time, temperature, equipment, the peroxide, the other necessary chemicals, the material to be bleached, and the color and bottom desired. There is a sufficient chemical technique and a sufficient amount of practical knowledge of peroxide bleaching available at the present time to work out in a comparatively short time a fairly exact process of peroxide bleaching for the requirements of almost any kind of textile.

The only other item connected with peroxide bleaching which must be taken into account is the full and willing co-operation of the personnel of the bleachery or finishing plant. There is no record of any plant that whole-heartedly wanted to do peroxide bleaching in which a satisfactory process has not been worked out. There are many records of bleacheries that were at first very skeptical of the value of peroxide bleaching for them which later have become its most enthusiastic boosters. In fact, some of them have become too enthusiastic.

However, all of this is an indication that peroxide bleaching has arrived as the universal textile bleaching process and tha tit may soon become the major process in the finishing of cotton textiles, as it has been in the finishing of silk and wool textiles.

and the various peroxide bleaching chemicals are fed on while the cloth is running. A full bleach requires from

Cannon Opposes Domestic Allotment Plan

(*Continued from Page* 16)

equalize prices with 1910-1914 values or to equal tariff benefits, operations would be irregular as no mill could afford to carry goods in stock and run the risk of being subjected to a change in tax. No buyer of goods would buy for future delivery with great uncertainty as to cost. This would cause confusion and be one of the contributing causes for decreased production and increased unemployment.

Many counties in the cotton producing area receive a large part of their tax from the railroads. If American cotton consumption is decreased, it will be a severe loss in revenue to the railroads and might cause serious financial difficulty which would in turn cause many counties embarrassment on their bonds, school and all county payments. Any condition that will decrease the manufacture and distribution of cotton goods in this country will have a far-reaching effect on the entire population of a large section of this country.

Colors Featured at the Mid-Season

Red in its various shades, which has held the spotlight in color fashions for the season, continues important in the mode, as revealed in the Paris mid-season spring collections, according to the Paris office of the Du Pont Style Service. Alone and in combination with other colors, it is important. Patou, one of the leading sponsors of the blue theme of last spring, features red combined with black and also with blue for daytime. Lelong emphasizes it in a scarlet version for evening. Passy-10-17 and Lucile Paray both stress the vivid reds, which predominate in the collection of the latter.

Scarcely less important than the red tones are the greys—stressed in most of the collection and often combined with red. Bruyere, whose collection features many shades of grey ranging from dove grey to brownish grey, as in the shade of natural astrakhan, combines a vivid red with grey for day. Passy-10-17 features the pearl and medium greys. The House of Worth emphasizes grey along with sand beige, black and brown.

New combinations of colors are important in all of the collections. For example, Patou, who stresses unusual color combinations in his collection, combines violet and saffron, plum with pink and nattier blue with ocean blue in smart evening ensembles. Passy combines chartreuse green with white and banana with white for evening. In most of the collections, white is important for evening, predominating in most of them. Black is seen but not so much in the evening mode as formerly.

Tones of flowers from the old-fashioned garden continue favorites among colors. Nasturtium shades that rang from yellows and reds to browns, also curious pinks from the country garden, mix well with the raw yellows, particularly for sports clothes, and fall readily into the brown scheme, which is a favorite background for both outdoor and indoor wear. The flame tones of the snap-dragon, as well as the pale butter yellow of the little wild snap-dragon, are seen in the new dull rayon velvets. Blues have taken on the purplish tint of the hyacinth and the hyacinth is providing a new deep pink stressed for evening.

The game of turnabout continues in color fashions, and colors once popular chiefly as daytime shades, in many instances, have taken their place in the evening mode. This applies particularly this season to the dark blues and browns. For example, Passy stresses navy for evening. Bruyere emphasizes it along with several shades of brown. Lelong is an outstanding exponent of the dark rich browns, featuring them both for day and evening.

Suggested Tax Clause in Sales Notes

In its weekly letter to mills Woodward, Baldwin & Co. quote a clause which the firm has adopted for use on all sale notes calling for delivery of goods after March 1, which in effect permits mills to advance the price of goods in direct proportion to the amount of any added cost which may result from Federal legislation effective before delivery of the goods. The firm notes that this clause, or one "substantially like it," will be adopted generally by selling agents during the current week. The letter follows:

"During the latter part of the present week a very active gray goods market developed in the print cloth and carded broadcloth divisions. Substantial sales were made at the advanced prices and a tendency toward higher levels became apparent.

"Sheetings remain dull and in only moderate demand.

"A considerable part of the buying of gray goods is thought to have been due to the threat of a heavy tax on the processing of cotton, which many feel will be passed by the new Congress which is to meet on March 4 and may be to some extent retroactive. For the protection of the mills we have adopted the following clauses to go on our sale notes as indicated.

"On all sale notes except for actual spots and which call for shipment of goods prior to March 1 the following clause will be stipulated:

" 'In addition to the price stated herein buyer agrees to pay, or to reimburse the seller for any sales or excise tax or taxes that may be imposed by the Federal and (or) State governments.'

"On all orders calling for delivery in whole or in part on or after March 1 the following clause is required:

" 'The price stated herein is based upon seller's cost under existing laws. If such cost is increased by any Federal tax upon sales of manufactured products or raw materials, the amount of such increased cost shall be added to the price stated.'

"We trust you will feel that these conditions will give you complete protection and should appreciate your advice in this particular.

"The clause above relating to domestic allotment tax has not yet been adopted generally by the selling agents, but probably it or one substantially like it will be adopted next week.

Cloth Statistics Reflect Lighter Demands

Statistical reports of production, billings and sales of carded cotton cloths during the month of November, 1932, were made public by the Association of Cotton Textile Merchants of New York. The figures cover a period of four weeks.

Production during November amounted to 249,054,000 yards, or at the rate of 62,263,000 yards weekly. Sales were 204,999,000 yards, or 82.3 per cent of production. Billings were 215,578,000 yards, or 86.6 per cent of production. Stocks increased 33,476,000 yards during the month to a total of 200,144,000 yards. Unfilled orders decreased 10,579,000 yards to 336,544,000 yards.

The change in stocks was an increase of 20.1 per cent.

The change in unfilled orders was a decrease of 3 per cent.

These statistics are compiled from data supplied by twenty-three groups of manufacturers and selling agents reporting to the Association of Cotton Textile Merchants of New York and the Cotton-Textile Institute, Inc. These groups report on more than 300 classifications or constructions of carded cotton cloths and represent the major portion of the production of these fabrics in the United States.

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Spartanburg, S. C.—A plan which if taken advantage of will place approximately $20,000 in circulation circulation during the holiday season has been announced by A. O. Joslin, treasurer of the Rock Hill Printing & Finishing Company. The company proposes to aid its employees during Christmas time by advancing a loan of one week's salary. Notices have been issued to employees reading as follows: "Realizing the necessity for the use of additional funds prior to the Christmas holidays, your company will advance, without interest, at the request of all operatives requiring same who have been in our employe for over a period of six months, up to one week's pay on condition that it be paid proportionately during a period of six weeks thereafter."

Greensboro.—Plants of the Proximity Manufacturing company will close only one day for Christmas, it was announced by officials of the company.

At present the company's four local plants, White Oak, Revolution and Proximity mills and Proximity Print Works, are operating on a five day week schedule. The plants will close as usual Friday evening, December 23, and resume operations Tuesday morning, December 27. Monday, December 26, will be the only regular working day observed as a holiday.

British Study Possibility Of Using Indian Cotton

What are the chances for an increased use of Indian cotton in Lancashire mills? Will Lancashire spinners substitute Indian for American raw material to any great extent in the future, or will more Indian Cotton eventually be used for mixing? Questions such as these are in the news just now, though in themselves they are subjects for academic discussion rather than practical trade points Manchester, England, advices state.

At present prices and with the present quality of Indian cotton as generally used it is less profitable for most purposes to spin it than American. But various factors may eventually change that position. A disproportionate rise in the price of American, the need to reduce British purchases of American goods—cotton is at present the largest single import from the United States in value—an undertaking on the part of India that if England buys more raw cotton from her she will take larger quantities of Lancashire cotton manufacturers, an improvement in the quality of Indian cotton—all these eventualities might tend to increase Lancashire's consumption of Indian cotton.

There are other considerations apart from price which at present militate against the increased use of Indian. There is its color, which prevents it from being employed in certain classes of goods. As things are at present a substitution of Indian for American in, say, a certain class of Burnley printers might mean a radicalalteration in the construction of the cloth, which might or might not be accepted by our customers.

The committee which has just been formed by the British Board of Trade to discover ways and means of increasing the use of Indian cotton in England includes: Sir Richard Hoyle Jackson, an Oldham spinner and chairman of the Empire Cotton Growing Corporation, who is to act as chairman; Richard Houghton, a director of G. & R. Dewhurst, Ltd.; J. W. Bennet, a Rochdale spinner; James Littlewood, director of the Lancashire Cotton Corporation and an authority on cotton blending; Harry Butterworth, a Royton spinner who represents the Master Cotton Spinners' Federation, and T. Ashhurst, secretary of the Cotton Spinners' and Manufacturers' Association. —Journal of Commerce.

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Annual Report on Textile Progress

(*Continued from Page* 4)

TRENDS IN WOOL INDUSTRY

An interesting aging machine of conventional design has been introduced into the wool industry and would seem to be well adapted for the purpose. This mechanism is provided with heat-retaining insulation as well as vapor-tight bushings and other devices for retaining the necessary heating requirements.

A single-apron stock drier of improved design has now been developed and, inasmuch as this machine is built in sections and can be furnished in any length and in a number of widths, it would appear that this mechanism would offer many advantages. The conveyor for carrying the stock to this machine is declared to be of new and improved construction, and the machine is adapted for fine stock, with the conveyor drive equipped for variable-speed control. Other improvements and attachments combine to make this mechanism very interesting.

The woolen industry has apparently accepted and installed tape condensers in greater quantity than ever before, thus indicating that this machine is an improvement in the industry.

Spinning frames are now in use in the place of mules, and it is understood that more are being installed as tradition gives way to experience.

MULTI-COLOR WARP-PRINTING MACHINE

A multi-color warp-printing machine is announced. In this machine yarns in warp form can be printed in from one to four colors by means of the new multi-color mechanism. Direct basic or acid colors may be handled in this machine. For vat dyeing a steam or aging chest, along with a two-compartment wash box, is provided. These machines are designed to be mounted directly behind the slasher so as to print the warp as it leaves the section beam in its full width.

Several new features and a number of improvements are embodied in recent models of a full-fashioned hosiery machine that has been offered to the trade. Many of the new devices of this machine are really improvements over a similar machine offered a short time ago. For single-operation work the single-narrowing machine is now replaced by a full-narrowing machine, and it is now possible to make the diamond toe on single-operation hosiery.

Another full-fashioned hosiery machine has been developed and is what might be styled a jacquard machine that will produce an open work pattern over the entire width of the stocking, and it is reported to produce this at an unusual high speed. The machine is designed to make single-unit stockings that do not have to be transferred, and it can also be used either as a legger or footer to make stockings in the usual manner with French foot or English instep. And the speed of this machine, depending on the gauge and the yarn employed, is 70 to 75 courses per minute.

Still another hosiery machine recently developed is a new wrap machine of individual needle type and makes possible the using of a very large number of different colors. This machine will turn out hose with high splice, double sole, and plated body. Any type of warp yarn may be used.

It is understood that some years ago a patent was taken out covering the manufacture of non-run hosiery, but up to quite recently little has been heard of this improvement. It is now expected that this device will be rapidly perfected and that very shortly the product will be placed on the market.

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COTTON GOODS

New York.—Important new business had a strengthening effect on the cotton goods markets last week, particularly in gray goods, where further large sales of print cloths and carded broadcloths were noted. Prices on these goods were higher and narrow sheetings were firmer. Buyers were slow to pay advances, but placed substantial orders before the week ended. The number of buyers in the market was considerably large and the demand covered a wider range of constructions that has been the case in several weeks.

In print cloths, 39-inch 4-yard 80s squares were marked up to 4⅝ cents for all deliveries, and good sales were reported for January and February. Corresponding advances were named on other constructions. A good many buyers were credited with placing orders now in the belief that it would not pay to take chances on any tax legislation Congress might pass.

Carded broadcloths were in an increasingly strong position. On the 100x60s it was difficult to find spots at any price and January and forward were held at 4⅞ cents in the few centers which would consider late business. The last of the 80x60s at 3⅝ cents were reported cleaned up and 3¾ cents was paid for some goods.

Some of the concessions which had been available on narrow sheetings vanished and advances were paid. On other styles mills still sold nearby goods at the previous prices, but would not take January and forward business.

In fine goods, no volume business on staple cottons has developed. The best demand continued to be for the novelty weaves and the variety of fabrics in these lines is being steadily increased.

Rayon cloths quieted down somewhat from the activity noted early in the week. There was still some interest in mixed crepes, but the volume business had been pretty well covered early in the week.

Print cloths, 28-in., 64x60s	2⅝
Print cloths, 27-in., 64x60s	2¼
Gray Goods, 38½-in., 64x60s	3¼– 3⅝
Gray goods, 39-in., 68x72s	3¾
Gray goods, 39-in., 80x80s	4⅝
Brown sheetings, 3-yard	4¾
Brown sheetings, standard	5½
Brown sheetings, 4-yard, 56x60s	4¼
Tickings, 8-ounce	11½
Denims	9
Dress ginghams	10½–13
Standard prints	5¾
Staple ginghams	6½

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YARN MARKET

Philadelphia, Pa.—Larger sales and firmer prices were reported in the yarn market during the week. A number of contracts covering up to 100,000 pounds of underwear yarns for delivery next year were put through. The volume of inquiry for all yarns was considerably better. Hosiery mills showed more interest. Spinners tightened up on prices on account of the better cotton market. A large number of bids at concessions were refused. A difference in price ideas between spinners and consumers continued to prevent many sales.

A number of consumers were trying to use offers they had several weeks ago to make purchases on a low basis. Most spinners were firm and were encouraged to believe that a business will soon be larger. Inquiry was large enough to show that yarn users need further substantial poundage and larger buying is expected after the holidays and inventory period.

The depleted condition of spot stocks in this market was demonstrated, dealers said, by the promptness with which some houses marked up their asking prices of certain counts wanted immediately by customers, necessitating shipments from local warehouses. It is stated reliably that the higher rates were paid in some cases, even after customers insisted they could obtain the yarn cheaper elsewhere. These transactions, of course, were confined to small lots.

There has also been extensive sampling of novelty knitting yarns to be used in spring wear, especially for dress lines, and yarn dealers are making preparations through sample cards and other means to move a larger poundage of these yarns than in their history. Many dealers say tha tthe outlook for novelty yarns is better than for 1932, which was relatively good. More spinners are going into the dyed novelty yarn game. Dealers are also showing a wide line of novelty weaving yarns, dyed, for use in the upholstery and tapestry trades.

Demand for combed yarns was quiet. There was a general disposition to expect lower combed prices and buyers have been staying out of the market except for their most pressing needs.

Southern Single Warps

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12s	13½a__
14s	14 a__
16s	14½a__
20s	15 a15¼
26s	17½a18
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Southern Two-Ply Chain Warps

8s	13 a__
10s	13½a__
12s	14 a__
16s	15 a__
20s	16 a__
24s	17½a__
30s	19 a19½
36s	24 a__
40s	25 a__
40s ex.	26½a__

Southern Single Skeins

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10s	13 a__
12s	13½a__
14s	14 a__
16s	14½a__
20s	15 a15½
26s	17¼a18
30s	18½a19
36s	19½a20

Southern Two-Ply Skeins

8s	13 a__
10s	13½a__
12s	14 a__
14s	14¼a__
16s	15 a__
20s	16 a__
24s	17¼a__
26s	18 a__
30s	19 a19½
40s	25 a__
40s ex.	26½a__
50s	30½a__
60s	35 a__

Duck Yarns, 3, 4 and 5-Ply

8s	13 a__
10s	13¼a__
12s	14 a__
16s	15 a__
20s	16 a16¼

Carpet Yarns

Tinged carpet, 8s, 3 and 4-ply	12 a__
Colored strips, 8s, 3 and 4-ply	12¼a__
White carpets, 8s, 3 and 4-ply	13 a__

Part Waste Insulating Yarns

8s, 1-ply	11 a__
10s, 2, 3 and 4-ply	11½a__
10s, 2 ,3 and 4-ply	11¼a__
12s, 2-ply	12 a__
16s, 2-ply	14 a__
20s, 2-ply	15 a__
26s, 2-ply	17½a__
30s, 2-ply	18 a__

Southern Frame Cones

8s	13 a__
10s	13½a14
12s	14 a14¼
14s	14½a15
16s	15 a15¼
18s	15½a16
20s	16 a16¼
22s	16½a17
24s	17 a17¼
26s	17½a18
28s	18 a18½
30s	18½a19

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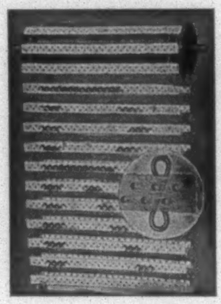

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AKTIVIN CORP., The, 50 Union Square, New York City, Sou. Rep.:American Aniline Products, Inc., 1003 W. Trade St., Charlotte, N. C.

AMERICAN ENKA CORP., 271 Church St., New York City. Sou. Rep.: R. J. Mebane, Asheville, N. C.

AMERICAN MOISTENING CO., Providence, R. I. Sou. Plants: Atlanta, Ga., and Charlotte, N. C. Sou. Offices: 1331 W. Morehead St., Charlotte, N. C.; 240 N. Highland Ave., Atlanta, Ga.,; 711 Woodside Bldg., Greenville, S. C.; Sou. Reps.: W. I. Burgess and C. A. Burgess, Greenville Office; Marvin McCall, Charlotte Office: J. D. Johnson and W. L. Johnson, Atlanta Office.

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BROWN CO., DAVID, Lawrence, Mass. Sou. Reps.:Ralph Gossett, Woodside Bdig., Greenville, S. C.; Belton C. Plowden, Griffin, Ga.; Gastonia Mill Suply Co., Gastonia, N. C.; Russell A. Singleton, Dallas, Tex.

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BUTTERWORTH & SONS CO., H. W., Philidelphia, Pa. Sou. Office: Johnston Bldg., Charlotte, N. C., J. Hill Zahn, Mgr.

CAMPBELL & CO., JOHN, 75 Hudson St., New York City, Sou. Reps.: M. L. Kirby, P. O. Box 432 West Point, Ga.; Mike A. Stough, P. O. Box 701, Charlotte, N. C.; A. Max Browning, Hillsboro, N. C.

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CLINTON CORN SYRUP REFINING CO., Clinton, Iowa, Sou. Reps.: J. W. Pope, Box 490, Atlanta, Ga.; Luther Knowles, Hotel Chorlotte, Charlotte, N. C.

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EATON, PAUL B., 218 Johnston Bldg., Charlotte, N. C.

ECLIPSE TEXTILE DEVICES, Elmira, N. Y. Sou. Reps.: Eclipse Textile Devices Co., care Pelham Mills, Pelham, S. C.; Eclipse Textile Devices Co., care Bladenboro Cotton Co., Bladenboro, N. C.

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FIRTH-SMITH CO., 161 Devonshire St., Boston, Mass. Southern Rep.: Wm. B. Walker, Jalong, N. C.

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FRANKLIN PROCESS CO., Providence, R. I. Southern Franklin Process Co., Greenville, S. C., B. S. Phetteplace, Mgr. Central Franklin Process Co., Chattanooga, Tenn., C. R. Ewing, Mgr.

GASTONIA BRUSH CO., Gastonia, N. C. C. E. Honeycutt, Mgr.

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GILL LEATHER CO., Salem, Mass. Sou. Reps.: Ralph Gossett, 904 Woodside Bldg., Greenville, S. C.; Hammer & Kirby, Gastonia, N. C.; Belton C. Plowden, Griffin, Ga.

GOODYEAR TIRE & RUBBER CO., INC., THE, Akron, Ohio. Sou. Reps.: W. C. Killick, 205-207 E. 7th St., Charlotte, N. C.;P. B. Eckels, 141 N. Myrtle Ave.., Jacksonville, Fla.; Boyd Arthur, 713-715 Linden Ave., Memphis, Tenn.; T. F. Stringer, 500-6 N. Carrollton Ave., New Orleans, La.; E. M. Champion 709-11 Spring St., Shreveport, La.; Paul Stevens, 1609-11 First Ave., North Birmingham, Ala.; B. S. Parker, Jr., Cor. W. Jackson and Oak Sts., Knoxville, Tenn.; E. W. Sanders, 209 E. Broadway, Louisville, Ky.; H. R. Zierach, 1225-31 W. Broad St., Richmond, Va.

HALTON'S SONS, THOS., "C" and Clearfield Philadelphia, Pa. Sou. Rep.: Dennis J. Dunn, P. O. Box 1261, Charlotte, N. C.

HART PRODUCTS CORP., 1440 Broadway, New York City, Sou. Reps.: Chas. C. Clark, Box 274, Spartanburg, S. C.; Samuel Lehrer, Box 265, Spartanburg, S. C.; W. G. Shull, Box 923, Greenville, S. C.; O. T. Daniel, Textile Supply Co., 30 N. Market St., Dallas, Tex.

HERMAS MACHINE CO., Hawthorne, N. J. Sou. Rep.:Carolina Specialty Co., P. O. Box 520, Charlotte, N. C.

HOUGHTON & CO., E. F., 240 W. Somerset St., Philadelphia, Pa. Sou. Reps.: J. M. Keith, 525 Rhodes-Haverty Bldg., Atlanta, Ga.; Jas. A. Brittain, 820 Comer Bldg., Birmingham, Ala.; Porter H. Brown, P. O. Box 656, Chattanooga, Tenn,; H. J. Waldron and D. O. Wylie, P. O. Box 663, Greensboro, N. C.; R. J. Maxwell, P O Box 1241, Greenville, S. C.; G. F. Davis, 418 N. 3rd St., St. Louis, Mo., for New Orleans, La.

HOWARD BROS. MFG. CO., Worcester, Mass. Sou. Office and Plant: 244 Forsyth St., S. W., Atlanta, Ga., Guy L. Melcher, Mgr. Sou. Reps.: E. M. Terryberry, 208 Embassy Apts.,1613 Harvard St., Washington, D. C.; Guy L. Melcher, Jr., Atlanta, Office.

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JOHNSON, CHAS. B., Paterson, N. J. Sou. Rep.: Carolina Specialty Co., Charlotte, N. C.

KEEVER STARCH CO., Columbus, Ohio, Sou. Office: 1200 Woodside Bldg., Greenville, S. C., Daniel H. Wallace, Sou. Agent, Sou. Warehouses: Greenville, S. C., Charlotte, N. C., Burlington, N. C. Sou. Rep.: Claude B. Iler, P. O. Box 1383, Greenville, S. C.; Luke J. Castle, 2121 Dartmouth Place, Charlotte, N. C.; F. M. Wallace, 2027 Morris Ave., Birmingham, Ala.

LOCKWOOD-GREENE ENGINEERS, INC., 100 E. 42nd St., New York City, Sou. Office: Montgomery Bldg., Spartanburg, S. C., R. E. Barnwell, V. P.

LUBRIPLATE CORP., New York City. Sou. Rep., Precision Gear & Machine Co., Charlotte, N. C.

MANHATTAN RUBBER MFG. DIVISON OF RAYBESTOS-MANHATTAN, INC., Passaic, N. J. Sou. Offices and Reps.: The Manhattan Rubber Mfg. Div., 1108 N. Fifth Ave., Birmingham, Ala.; **Alabama**—Anniston, Anniston Hdw. Co.; Birmingham, Crandall Eng. Co. (Special Agent); Birmingham, Long-Lewis Hdw. Co.; Gadsden, Gadsden Hdw. Co.; Huntsville, Noojin Hdw. & Supply Co.; Tuscaloosa Allen & Jemison Co., **Montgomery**, Teague Hardware Co. **Florida**—Jacksonville, The Cameron & Barkley Co.; Miami, The Cameron & Barkley Co.; Tampa, The Cameron & Barkley Co. **Georgia**—Atlanta, Atlanta Belting Co.; Augusta, Bearing Parts & Supply Co.; Columbus, A. H. Watson (Special Agent); Macon, Bibb Supply Co.; Savannah, D. DeTreville (Special Agent). **Kentucky**—Ashland, Ben Williamson & Co.; Harlan, Kentucky Mine Supply Co.; Louisville, Graft-Pelle Co. **North Carolina**—Charlotte, Matthews-Morse Sales Co.; Charlotte, Charlotte Supply Co.; Fayetteville, Huske Hdw. House; Gastonia, Gastonia Beting Co.; Goldsboro, Dewey Bros.; High Point, Beeson Hdw. Co.; Lenior, Bernhardt-Seagle Co.; Rockingham, Roy Walker, (Special Agent); Wilmington, Wilmington Iron Works; Winston-Salem, Kester Machinery Co. **South Carolina**—Anderson, Sullivan Hdw. Co.; Charleston, The Cameron & Barkley Co.; Clinton, Industrial Supply Co.; Columbia, Columbia Supply Co.; Greenville, Sullivan Hdw. Co.; Sumter, Sumter Machinery Co.; Spartanburg, Montgomery & Crawford. **Tennessee**—Chattanooga, Belting & Supply Co.; Johnson City, Summers Hdw. Co.; Knoxville, W. J. Savage Co.; Nashville, Buford Bros., Inc. Service Rep.; J. P. Carter, 62 North Main St., Greer, S. C. (Phone 186). Salesmen: E. H. Olney, 101 Gertrude St., Alta Vista Apts., Knoxville, Tenn.; C. P. Shook, Jr., 1031 North 30th St., Birmingham, Ala.

MARSTON CO., JOHN P. 247 Atlantic Ave., Boston, Mass. Sou. Rep.: O. H. Ochs, Hotel Charlotte, Charlotte, N. C.

MATHIESON ALKALI WORKS, INC., 250 Park Ave., New York City, Sou. Plant, Saltville, Va., E. A. Hults, V-Pres. Sou. Office: First Nat'l Bank Bldg., Charlotte, N. C., Fred C. Tilson, Mgr. Sou. Reps.: E. M. Murray, E. M. Rollins, Jr., J. W. Ivey and B. T. Crayton, Charlotte Office; R. C. Staple, Box 483, Chattanooga, Tenn.; Z. N. Holler, 208 Montgomery St., Decatur, Ga.; J. W. Edmiston, Box 570, Memphis, Tenn.; V. M. Coates, 807 Lake Park, Baton Rouge, La.; T. J. Boyd, Adolphus Hotel, Dallas. Tex.

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MORTON MACHINE WORKS, Columbus, Ga. Sou. Rep.: Carolina Specialty Co., Charlotte, N. C.

NATIONAL ANILINE & CHEMICAL CO., INC., 40 Rector St., New York City, Sou. Office & Warehouse: 201 W. First St., Charlotte, N. C., W. H. Willard, Mgr. Sou. Reps.: J. I. White, W. L. Barker, C. E. Blakely, Charlotte Office: J. T. Chase, American Savgs. Bk. Bldg., Atlanta, Ga.; H. A. Rodgers, 910 James Bldg., Chattanooga, Tenn.; J. E. Shuford, Jefferson Std. Life Bldg., Greensboro, N. C.; E. L. Pemberton, 342 Dick St., Fayetteville, N. C.

NATIONAL OIL PRODUCTS CO., Harrison, N. J. Southern Reps.: R. B. MacIntyre, Hotel Charlotte, Charlotte, N. C.; G. H. Small, 310 Sixth St., N. E., Atlanta, Ga.; Warehouse, Chattanooga, Tenn.

NATIONAL RING TRAVELER CO., 257 W. Exchange St., Providence, R. I. Sou. Ofice and Warehouse: 131 W. First St., Charlotte, N. C. Sou. Reps.: L. E. Taylor, Charlotte Office: C. D. Taylor, Sou. Agent, Gaffney, S. C.; Otto Pratt, Gaffney, S. C.; H. L. Lanier, Shawmut, Ala.; Roy E. Clemmons, 926 W. Peachtree St., Atlanta, Ga.

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SONOCO PRODUCTS CO., Hartsville, S. C.

SOUTHERN SPINDLE & FLYER CO., Charlotte, N. C.

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U S BOBBIN & SHUTTLE CO., Manchester, N. H. Sou. Plants: Monticello, Ga. (Jordan Division); Greenville, S. C.; Johnson City, Tenn. Sou Reps.: L. K. Jordan, Sales Mgr., First National Bank Bldg., Charlotte, N. C.

U. S. RING TRAVELER CO., 159 Aborn St., Providence, R. I. Sou. Reps.:Wm. P. Vaughan, Box 792, Greenville, S. C.; O. B. Land, Box 4, Marietta, Ga. Stocks at: Textile Mill Supply Co., Charlotte, N. C.; Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Carolina Mill Supply Co., Greenville, S. C.; Sullivan Hdw. Co., Anderson, S. C.; Fulton Mill Supply Co., Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.

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VICTOR RING TRAVELER CO., Providence, R. I. Sou. Offices and Warehouses: 615 Third National Bank Bldg., Gastonia, N. C., A. B. Carter, Mgr.,; 520 Angier Ave., N. E., Atlanta, Ga., B. F. Barnes, Mgr., Sou. Reps.: B. F. Barnes, Jr., Atlanta Office; A. D. Carter and N. H. Thomas, Gastonia Office.

VISCOSE CO., Johnston Bldg., Charlotte, N. C. H. Wick Rose, Mgr.

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WHITINSVILLE SPINNING RING CO., Whitinsville, Mass. Sou. Rep.: Webb Durham, 2029 East Fifth St., Charlotte. N. C.

WHITNEY MFG. CO., Hartford, Conn. Sou. Rep., Precision Gear & Machine Co., Charlotte, N. C.

Cotton Goods More Active

"This has been a more active week and the volume of orders placed was larger than for several weeks past. Print cloths were sold in larger quantities, due mainly to the increased demand for finished goods. While printers and converters are complaining about the prices of finished goods, sales have increased materially with them during the last two weeks. There was an improvement in the demand for sheetings from the jobbing trade but on other constructions of narrow sheetings and drills the market was relatively quiet. Broadcloths continue strong and various constructions have advanced about one-eighth cent per yard. Sales have been fair on miscellaneous fancies, with the demand for rayon fabrics stil very strong, and some mills are pressing rayon manufacturers to accept business for deliveries through February and March, which they have not been disposed to do up to the present time," Hunter Manufacturing and Commission Company reports.

"The most important development for the cloth marke tduring the week was the House Committee's approval of the bill to give the remaining Farm Board surplus cotton, which totals 329,000 bales, to the Red Cross. It is believed that this bill will go through both Houses and will be signed by the President. This will mean further large purchases of garments and cloth. The statistical position of the market today is much stronger than when the previous large purchases were made by the Red Cross during the summer and early fall and this is particularly true of the fabrics which the Red Cross will use.

"Judge John Barton Payne, chairman of the Red Cross, told the committee that the needy could use 2,000,000 bales and that a survey by the Red Cross showed 4,238,000 families who require clothing. This gives us a little clearer picture of the individual needs and undoubtedly there is a further large percentage of the population whose supply of clothing and household goods has to be replaced. Stocks generally are extremely low, including the inventory in the hands of mills, jobbers, converters and retailers."

Need of Market For Textiles Is Urged

Raleigh, N. C.—The need of a market for textiles and other Southern products in North Carolina was emphasized in a statement by Col. J. W. Harrelson, director of the State Department of Conservation and Development.

"There is everything to gain and nothing to lose by the organization of such a sales outlet for textile and associated products of the Southeast," Colonel Harrelson said.

"This is an appropriate time for its establishment, because of the present policy of hand-to-mouth buying. It is difficult to realize just how much a market would mean to the city in which it was established, or to the South as a whole.

"Besides immediate financial considerations, the city of its location would gain tremendous sectional or national prestige. It is a great stake for some city and for the South to go after."

Colonel Harrelson said the size of such a market could be recognized by the fact that the sale of general merchandise in North Carolina aggregates nearly $200,000,000 annually, while $40,0,00,000 is spent for wearing apparel.

New Machine Plants Seed at Desired Depth

Washington.—John W. Randolph, an engineer for the Department of Agriculture, has invented a cotton planting machine which will plant seed at varying depths at regular spaces apart, the department announced.

On account of the possibility of varying weather conditions, farmers usually plant several times as many seeds as are required. In some kinds of weather, the seed must be close to the surface if the crop will grow and mature properly; in other cases, the seed must be planted deep.

A public service patent has been obtained on the new machine, which has worked well in experiments, and its manufacture may be carried on without the payment of royalties.

Mills Use More Cotton

Washington. — November cotton consumption showed a further slight gain, totalling 503,722 bales, against 502,244 in October, exceeding by 78,500 October, 1931, consumption of 425,228 bales, it was announced by the Census Bureau.

Increased consumption was achieved in the face of a decline in the number of spindles active, from 24,587,732 in October, to 24,348,506 last month.

Gains in consumption at the expense of other areas were reported from cotton growing States, where consumption increased from 414,572 to 421,499 bales, while in New England it declined from 72,521 to 67,913 bales and in all other States from 15,151 to 14,310 bales, it was shown.

Stocks of cotton November 39 included 1,456,913 bales in consuming establishments against 1,266,816, October 31, and 10,677,362 in public storage and at compresses, against 9,826,875.

Cost of Dyeing Cotton Piece Goods

(*Continued from Page* 10)

A 3 per cent dyeing of a 1,000-yard roll of 5-yard cloth is:

Materials:		
6 lb. color, at $0.60		$3.60
6 lb. sodium sulphide, at $0.04		0.24
3 lb. soda ash, at $0.01		0.03
10 oz. soap, at $0.62		0.038
10 lb. salt, at $0.004		0.04
3 lb. chrome, at $0.058		0.174
5 lb. acetic acid, at $0.048		0.24
2 lb. soap, at $0.062		0.124
2 lb. soda ash, at $0.01		0.02
Total materials cost		$4.506
Labor:		
Dyeing	6 ends	
Salt rinse	2 ends	
Chrome and acetic acid	2 ends	
Rinse	2 ends	
Soap	2 ends	
Rinse	1 end	
Shell	1 end	
	16 ends	
For the 16 ends at average of 20 min. each, 5 1-3 jig-hours, or 1 1-3 man-hours, at $0.42 (4-jig rate) per hour		$0.56
Total base cost for 1,000 yd.		$5.066
Base cost per yd.		0.005066

Occasionally, when the requirements are more exacting than the foregoing classes of color can meet, naphthol colors are used. This type of color will be discussed, however, with the vat colors.

PERSPIRATION-PROOF DYEING

A perspiration-proof dyeing is defined as one that will withstand alternate action of weak alkaline and acid solutions under definite conditions of temperature and concentration, which is obviously intended to imitate the effect of perspiration. These tests, however, are not altogether accepted by the converter, who may simply apply a cold-water steeping test. Many dyes that show satisfactory fastness in the regular test bleed sufficiently in cold water to stain white cloth.

After-treatment of some commercial colors with formaldehyde gives dyeings satisfactory for most requirements. In some cases the dye manufacturers have selected a line of these colors and given them special names for identification. A faster type of dyeing can be obtained with the sulphur colors, but as an example of this type has been given, a summary of the formaldehyde after-treatment is given, as follows:

Materials:		
4 lb. dye, at $1.20		$4.80
½ lb. oil, at $0.09		0.045
20 lb. salt, at $0.004		0.080
6 lb. formaldehyde, at $0.0589		0.353
4 lb. acetic acid, at $0.048		0.192
Total materials cost		$5.470
Labor:		
Dyeing	7 ends	
After-treatment	2 ends	
Shell	1 end	
For the 10 ends at average of 20 min. each, 3 1-3 jig-hours, or 5-6 man-hour, at $0.42 (4-jig rate) per hour		0.35
Total base cost per 1,000 yd.		$5.82
Base cost per yd.		0.00582

The vat colors include many of our fastest dyes, and when specified, the customer expects the cloth to wear out in service, leaving a skeleton in color. The excellent fastness of the vat colors has been somewhat exaggerated, so that today only the fastest members of this class meet the usual trade demands for fastness to light, washing and perspiration.

A reduction in alkaline liquor is required for solution of these dyes, and after dyeing the color must be oxidized and soaped to develop its full value and fastness. These colors are, moreover, difficult to apply, especially in regard to penetration of the fiber, and while very light shades can be obtained satisfactorily by padding with reduced dye, heavier shades need a somewhat longer treatment. A combination padding and jig dyeing is commonly used for small lots, while a continuous machine has been developed for long runs. Heavy shades or dyeings on thick or tightly woven fabrics may show poor penetration when dyed by this method. This difficulty has been overcome by padding the goods with a thickened solution of the unreduced dye paste, with subsequent reduction and after-treatment in the jig.

The low solubility of the reduced vat colors limits the depth to which the pad, jig or continuous machines can be used 3½ to 4 oz. of 20 per cent paste to the gallon being about the limit of the solubility. Heavy shades are more economically dyed on the jigs when satisfactory penetration can be secured. The pigment-pad method is, on the other hand, more economical in medium depths.

COPEN SHADE FOR 2.85-YARD CLOTH

A representative formula for the pigment-pad method, Copen shade, for 3,000 yards of 2.85-yard cloth is:

Pad. materials for 120 gal.:			
30 lb. dye, at $1.50		$45.00	
12 gals. gum, at $0.04 per lb.		4.80	
4 lb. penetrant, at $0.15 per lb.		0.60	
		$50.40	$50.40
Jig, materials for a 500-yd. roll:			
4½ lb. caustic soda, at $0.02		$0.090	
6 lb. hydrosulphite, at $0.195		1.170	
10 lb. salt, at $0.004		0.040	
2 lb. chrome, at $0.58		0.116	
1 lb. acetic acid, at $0.048		0.048	
1 lb. soap, at $0.062		0.062	
Total materials cost per roll		$1.526	
Total materials cost for 6 rolls			9.16
Total materials cost for 3,000 yd.			$59.56
Labor:			
Pad machine:			
Pad time	45 min.		
Cleaning	30 min.		
Total time	75 min.		
This, with 1-3 helper, equals 1 2-3 man-hours, at $0.36 per hour		$ 0.60	
Jig, for 1 roll:			
Caustic and hydro	6 ends		
Wash	2 ends		
Oxidize	4 ends		
Wash	2 ends		
Soap	2 ends		
Rinse and shell	2 ends		
	18 ends		
For the 18 ends at average of 20 min. each, 6 machine-hours, or 1 1-3 man-hours at $0.42 per hour, or $0.63, and for the * rolls		3.78	
Total labor cost		$ 4.38	$ 4.38
Total base cost for 3,000 yd.			$63.94
Base cost per yd.			0.02131

REDS AND BLACKS IN VAT COLORS

The reds and blacks desired to fill out a line of vat color dyeings are often unobtainable in this class of dye, through lack of brilliancy. Various naphthol reds and aniline black are commonly used for this purpose and are of sufficient fastness when properly applied. Cloth saturated with a naphthol is coupled with a developer, the resulting color depending mainly upon the selection of these materials. The demand for vat fastness with lower prices has caused dyers and converters alike to consider this class of color seriously as a competitor to the vats, but as yet a full line of these colors has not been secured with quite the general fastness of the best reds.

FORMULA AND COSTS FOR NAPHTHOL RED

A representative formula for naphthol red, using a naphthol of the substantial type suitable for the average dyehouse, is:

Materials for jig dyeing:		
2 lb. naphthol ASSW, at $3.00		$ 6.00
20 lb. salt, at $0.004		0.08
6 lb. red salt, at $1.10		6.60
2 lb. soap, at $0.062		0.124
Total materials		$12.804
Labor:		
Napthalate	4 ends	
Salt	2 ends	
Salt rinse	2 ends	
Couple	3 ends	
Wash	2 ends	
Soap	4 ends	
Shell	1 end	
	18 ends	
For the 18 ends at average of 20 min. each, 6 machine-hours, or 1½ man-hours, at $0.42 (4-jig rate) per hour		$ 0.63
Total base cost for 1,000 yd.		$ 13.43
Base cost per yd.		0.01343

AVERAGE COSTS FOR ALL CLASSES OF COLORS

Trade reports show average costs for a 5-yard cloth exclusive of overhead to be $0.00335 per yard for a bleaching and mercerizing and $0.00274 for finishing and packing. Adding these figures to the dyehouse base cost shows:

Class of Color	Dyehouse Base	Other Operations	Total Base Cost
Jig	$0.00321	$0.99609	$0.00930
Pad	0.000256	0.00609	0.00635
Sunfast:	0.01041	0.00609	0.0165
After-treated commercial	0.00388	0.00609	0.00997
Tub-fast:			
Diazo	0.00694	0.00609	0.01303
Sulphur	0.00507	0.00609	0.01116
Perspiration-proof			
Vat colors:			
Vat	0.02118	0.00609	0.02727
Naphthol	0.01343	0.00609	0.01952

These figures represent only average conditions and do take into account the materials used in the starch or finishing room, which in many finishes may cost 1 cent per yard. One reason that finishers can take work in some of the classes lower than the foregoing figures a ta profit is that these merely represent averages in both dyeing and other process costs. A reduction in number of operations coupled with light shades may effect sufficient economies to make a profit possible. The finisher hopes to average his cost of dyeing by having enough light shades to offset the losses incurred with the heavier colors.

These examples of dyeing costs have been presented with the idea of showing a clearer picture of the actual dyehouse operating costs in relation to the total finishing costs. These costs are in many cases above the market prices, and this condition cannot exist long in any industry. A better knowledge of costs, with a willingness to be guided by them, will help this industry to a more stable condition.

Fine Goods in Better Position

Fine cotton goods mills are looking forward with confidence to the continuation next spring and summer of the vogue for cotton in women's wearing apparel, according to George A. Sloan, president of the Cotton-Textile Institute of New York City, who was in Boston for a meeting with mill executives in this important branch of the industry. Mr. Sloan declared that recent surveys among style authorities in Paris, New York and other fashion centers emphatically indicate a further extended popularity for cottons, which are already being featured in Palm Beach and winter cruise wearables now being shown to retail store buyers.

In referring to the coming spring season as one that will be notable for the revival of many familiar favorites of other years, Mr. Sloan mentioned ginghams, etamines, organdies, voiles, seersuckers and fine crees as having definitely returned to favor. Substantial advances in the styling of these fabrics characterize the 1933 versions. Brocaded effects on sheer voiles, marquisettes, organdies and related constructions are a note of especial interest. A variety of novelty weaves has been introduced to distinguish the popular new matalasse materials.

A manufacturing refinement of important influence in restoring public favor for cottons is the success achieved in overcoming the problem of shrinkage control. By chemical and mechanical processes in finishing, dress goods and other materials may now be given a measured shrinkage which is accurately predetermined by washing tests as equivalent to that of laundering.

"The industry regards as factors of highest significance," said Mr. Sloan, "the many new uses for cotton goods that are being constantly advanced by Paris and American dressmakers."

It was brought out at the meeting that employment conditions in mills making fine goods have been better for the last three months than during the same time in the previous two years. Production in this period has been 24 per cent larger than a year ago and 27 per cent larger than in 1930. This is due to unusually large sales. From August 1st to date, sales have been 100 per cent in excess of the corresponding period in 1931 and 50 per cent in excess of 1930. While this has helped employment, the same cannot be said of earnings. Generally speaking, prices have not equalled replacement values.

Notwithstanding the heavy production of fine goods, the unfilled orders now on hand are about 70 per cent greater than a year ago and about 60 per cent greater than two years ago. At the same time, inventories have been greatly reduced; stocks have been reduced to one-half of the volume of last summer and are at approximatel ythe low point for the last four years. It was the general feeling of mill executives present at the meeting that the preservation of the present low inventory position would constitute a most constructive contribution toward market improvement.

Most Greenville Mills To Close Three Days

Greenville, S. C.—Cotton mills of Greenville will, according to the tentative schedules announced, be closed from Friday night, December 23, until Tuesday morning, December 27. In a few instances mills may grant a longer holiday period, not resuming operations until Wednesday morning.

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Hosiery Group Advocates Clause Against Sales Tax

The National Association of Hosiery and Underwear Manufacturers has reopened its drive against the manufacturers' sales tax and, in particular, its campaign against the assumption by the mills of any levy on orders now through.

Discussing means of preventing the shift of the tax, the association says in its weekly bulletin:

"A number of manufacturers are already taking steps to protect themselves against the possible passage of sale tax legislation at the present session of Congress, by stamping their order forms with a degnite statement to the effect that any sales tax enacted will be added to the prices specified on the orders.

"One stamp of this character, now being used by a very large mill, reads: 'Prices on this order subject to addition of proposed Government sales tax if levied prior to delivery.'

"Similar stamps which were in use on order forms last spring by representative mills when the sales tax was under consideration by Congress read as follows: 'This order, placed by the buyer and accepted by the seller, is subject to the payment by the buyer of any sales tax which may be levied thereon at any time prior to delivery. Any national sales tax levied and applying on these goods will be added when goods are invoiced.'

"It should be obvious to manufacturers that as long as a sales tax is threatened, the use of a stamp of this general nature on their order forms is a certain way of protecting themselves against their absorbing the tax."

Lower Freight Rates Argued

Greensboro, N .C.—Arguments for lower freight rates on North Carolina mill products are outlined in a brief submitted to the Interstate Commerce Commission by the North Carolina Hosiery Manufacturers' Association, the North Carolina Full Fashioned Hosiery Manufacturers and the local Chamber of Commerce, according to statement of Morris Prince, of Greensboro, manager of the traffic department of these two hosiery organizations.

Rates on hosiery shipments east of the Rockies are involved in the proceedings, hearing on which were held in Washington from the middle of April to the first of August. In the brief just submitted, it is alleged that freight rates from North Carolina to all parts of the South and to northern and western States are unreasonable, and that rates from the southeastern bracket of States are lower in level and discriminatory to North Carolina, and it is further alleged, that rates to northeastern States and to northern and western points in general discriminate against North Carolina.

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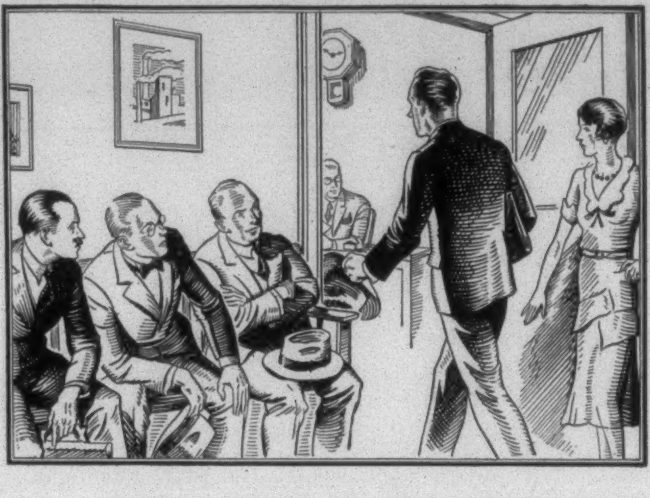

"Mr. Smith," calls the secretary. The first of a line of waiting salesmen, hurriedly collecting hat and sample case, enters the buyer's office. A ground-glass door closes behind him. The other men shift, recross their legs and settle down to wait their turn. It won't be long now.

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And because these selling minutes are so few, so precious, it is important to save them for actual selling, to free the hands of salesmen for the important work which can only be done face to face with the buyer.

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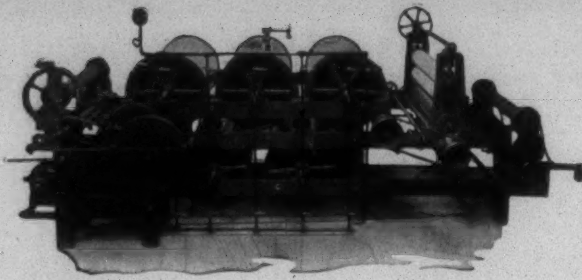

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